

SOCIAL NETWORKS INFLUENCE IN CHOOSING A TOURIST DESTINATION

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ABSTRACT

The use of social media is having an increasingly positive impact on tourism activities and the information available on social networks. The aim of this study is to investigate the opinions of social network users regarding their perceptions of social network use, social network communication, and social network information that influence the decision-making process of potential tourists when choosing a destination. The survey was conducted using an online questionnaire and the collected data was processed using the PLS-SEM method. The results show that the use of social networks, communication, and search for information in social networks influence the decision-making process when choosing a destination.

Keywords: communication on social networks; social networks usage; information on social networks; decision-making process; tourism destination

1. INTRODUCTION

The development of information and communication technology has transformed all aspects of people's lives (Jamal & Habib, 2020), especially the travel industry (Ryu et al., 2021, Sharma, 2021), with advanced interactive applications (Toulson & Wilmshurst, 2016) and technological innovations (Xiang et al., 2015). Thanks to technology (Mokhtarian & Tal, 2013), online tools have become the main source of information in travel planning (Qi & Leung, 2018) and have transformed communication, relationships, and business with customers (Cvijikj & Michahelles, 2013; Gummerus et al., 2012). Today, more than half of the world's population uses social media, 58.4% (Chaffey, 2022). To some extent, the reasons for joining social networks may be to have fun or share information (Cenamor et al., 2017), gather information (Xiang & Gretzel, 2010; Lucas et al., 2013), close deals or improve business operations (Chu, 2011), or be connected to the brand through online communities (Arya et al., 2019).

The pressure to make the right marketing decision-whether selecting the most appropriate channel or identifying the most effective message-can be daunting, especially considering that both tourism and technology are characterised by dynamism and constant change (Benckendorff et al., 2019). While tourists may use multiple channels simultaneously, often the same messages are not communicated across all channels (Key & Czaplewski, 2017; Jain et al., 2021; Jhamb et al., 2021).

Many researchers have studied social media in tourism from different perspectives, such as the perceived benefits and risks of using social media (Parra-Lopez et al., 2011; Kang, 2011), with traveller engagement in social media positively related to motivation and opportunity (Leung & Bai, 2013). A variety of information is gathered before travel and shared after travel (Zeng & Gerritsen, 2014), especially for unfamiliar destinations (Lee &

Gretzel, 2014). The relationship between social media and purchase decisions is underscored by the fact that nearly 78% of travellers use social media for travel purposes (Murphy & Chen, 2016). Social media has been analysed because of its important role in the communication process (Pennington-Gray et al., 2011; Habeeb et al., 2021). However, quantitative measurement tools for social media are quite limited (Leung et al., 2013), as the decision-making process influenced by social networks has been mainly analysed through qualitative research (Gupta, 2019; Varkaris & Neuhofer, 2017; Dwityas & Briandana, 2017; Zeng & Gerritsen, 2014).

Therefore, considering the recent significant technological developments and increase in communication, it is argued that previous research cannot fully reflect the new environment of social media for travel planning decision making. The subject of this study is the influence of social network use in communication and information search on travel destination choice. Accordingly, the study aims to determine the degree of ease in obtaining the required information through social networks and to investigate the usefulness of social networks for tourists in searching for information about a destination. The study aims to understand social network users' perceptions of social network use, communication, and information gathering via social networks that influence the decision-making process in selecting a travel destination.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Use of social networks in the tourism industry

The use of social networks and their inclusion in integrated marketing strategies is becoming increasingly important as users spend more time communicating through social media channels (Chaffey, 2022; Matikiti-Manyevere & Kruger, 2019; Hanaysha & Momani, 2021). By focusing on the audiences that use a particular social network the most, companies and social media creators were the first to introduce advertising, which became much more important than pure advertising in WEB 2.0 and social networks based on two-way communication with all interested stakeholders (Sigala, 2012; Gupta 2019; Firoz et al., 2021). It is also important to investigate

which social media are more important from the users' perspective (Zeng & Gerritsen, 2014) and more effective as a communication channel (Leung et al., 2013; Hudson & Thal, 2013).

Munar and Jacobsen (2013; 2014) found that travellers' preferred social media is Facebook to post pictures, videos, and comments from their trips. Parra-López et al. (2011) show that intention to use social media is directly influenced by perceived benefits and usage (functional, psychological, hedonistic, and social), while cost is not a factor (Parra-López et al., 2011). Arya et al. (2018) underlined that tourists' attitude as a complementary mediation are positively impacting on the significant relationship of destination motivators and destination attachment. Munar and Jacobsen (2013) found that communication about travel experiences on social media is contextualised with personal data. However, social media is increasingly replacing traditional word of mouth and becoming electronic word of mouth (eWOM), which has a much stronger influence than before due to the nature of the media itself (Kim et al., 2015). Considering the importance of social network use, the first hypothesis is:

H1: Social network usage is positively related to the decision-making process of choosing a travel destination.

2.2 Communication on social networks

The oldest Internet communication tool is communication via websites and electronic mail (Paul et al., 2019). The problem with communication via the Internet and social media compared to conventional communication channels is the continuous and very rapid evolution of technology and changes in trends and tactics that need to be implemented as quickly as possible in corporate marketing (Gretzel et al., 2008; Buhalis & Law, 2008; Buhalis, 1998).

Communication through social networks is transmitted through different channels and between different members, and the geographic reach of information is very fast. The initiator of communication can be an individual or a group of individuals who transmit information to a specific, selected person or who are only interested in disseminating information without selecting a specific person to transmit information (Hvass

& Munar, 2012). Posting stories on Instagram, commenting on television shows on Twitter, sharing experiences on forums with people of similar liking, expressing joy about visits to national parks via Facebook, or posting new entries on your blog: these are just a few examples of the many ways social network users communicate with other users via social media (Carr & Hayes, 2015). Nowadays, as social media has become the most popular form of social communication and interaction, marketing on social networks is about businesses or destinations creating profiles on different social networks with the widest possible spectrum and managing these social networks by posting written and visual content on the profiles they create (Buhalis & Law, 2008; Toufaily et al., 2016).

The use of social networks in tourism has made significant progress over time, with 24% used for holiday travel (Jacobsen & Munar, 2012) and 69% after some time (Gururain, 2015), while 34% were used for destination attraction selection and 35% for resort selection, with Facebook being the most commonly used social media site by travellers. Mieli & Zillinger (2020) made a critical observation for tourism service providers regarding online information causing decisions to be postponed just before consumption, which can be challenging for service providers and planning. Arya et al. (2021) analysis indicates that brand consumer-based brand equity through social networking sites is high when a brand's communication on social media platforms is positive. Liu et al. (2020) acknowledge that social media has an indirect impact on daily users as it is an important source that influences travel decisions and serves as a reminder. Direct impacts exist in the area of information seeking before, during, and after travel; they also noted that social media has replaced old sources of communication. Even in Europe, there is considerable research effort on social media use, although Facebook seems to have been neglected recently (Teles da Mota & Pickering, 2020).

Thus, social media communication has a positive impact on the decision-making process when choosing a destination:

H2. Communication in social networks is positively related to the decision-making process when choosing a travel destination.

2.3 Information on social networks

The Internet is an inevitable channel for searching information (Qi & Leung, 2018) or purchasing tourism services (Ryu et al., 2021). Social networks are becoming more influential in tourism as consumers tend to trust other users more than service providers (Weathers et al., 2007; Naumovska, 2017). Consumers are connected to brand communities and destinations because they like them and feel loyal to them, which is reinforced by social media (Buhalis and Law, 2008; Gummerus et al., 2012; Arya et al. 2019).

Social media can be useful for gathering information from customers for future strategies and products (Howland et al., 2003), as an accessible and price-wise way to communicate (Kim and Hardin, 2010; Tajpour & Hosseini, 2021). In addition, previous studies have confirmed that social networks can provide tourism businesses with strategic information for product improvement and development, but they have overlooked the downside of social media proliferation such as the loss of control over customer evaluation (Chua & Banerjee, 2013). They allow consumers to share information about a particular product, exchange opinions and experiences with consumers, and this helps companies to easily connect with consumers so that they can adapt more quickly to the market and its needs (Jayasingh & Venkatesh, 2015).

The way companies behave and respond to negative comments is extremely important. Responses should be immediate, constructive, and help build and maintain followers' trust in a company or destination (Schmallegger & Carson, 2008).

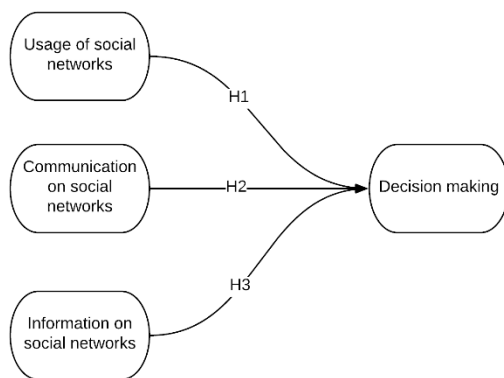
Social networks are influential in all stages of travel (Mariani et al., 2019, Mohanan & Shekhar, 2021) as they facilitate information gathering, contacting, and travel decision-making (Stepchenkova et al., 2007). Customer satisfaction or dissatisfaction with any segment of an offering can spread very easily, as social networks can quickly disseminate this information to the entire digital environment. While many active users use the Internet and social media to get information about destinations, a part of tourists believe that searching for certain information takes too much time (Semerádová and Vávrová, 2016).

The reason for the great popularity of social media among companies is the fast dissemination of reliable information via the Internet, as it is much faster than other media (Schivinski & Dabrowski, 2013). However, the most important thing is building customer relationships, not just providing information (Jayasingh & Venkatesh, 2015) or reminding them of a goal (Liu et al., 2020). It follows that information from social networks has a positive impact on the decision-making process.

H3. Information on social networks is positively related to the decision-making process of choosing a destination.

Regarding the three above-mentioned hypotheses, the research model is as follows (Figure 1).

Figure 1: The research model



3. RESEARCH METHODOLOGY

The aim of the research is to find out the extent to which communication through social networks can influence the destination selection process and the importance of communication for potential tourists. To achieve the research objectives, an empirical study was conducted using a self-administered questionnaire. The research instrument was a structured online questionnaire that was developed based on previous literature and the questions were adapted to meet the needs of the study (Sharma et al., 2021, 2022a). The questionnaire is divided into two parts. The first part refers to the importance of social network use (Fotis et al., 2012), social network communication (Soares et al., 2012), social network information (Soares et al., 2012; Toufaily et al., 2016) and decision making (Toufaily et al., 2016). The purpose is to investigate whether

respondents believe that social networks facilitate communication and help to simplify the process of gathering information when choosing a destination, and whether they consider the information gathered to be useful and relevant when choosing a destination. This part also includes questions about the importance of timely information and up-to-date destination profiles. The second part of the questionnaire addresses respondents' sociodemographic characteristics such as age, gender, education and employment, and social media use (Mantau et al., 2019).

The survey was conducted online from March to June 2018 using Google Forms, and the questionnaire was shared through various social media groups and travel forums (Sharma et al., 2022c). A convenience sample was used for the study, consisting of people in Croatia who use social networks (Sharma et al., 2022b). A total of 404 fully and correctly completed questionnaires were collected, which is considered sufficient for PLS-based analysis (Kristensen & Eskildsen, 2010). It was important that the sample consists of online users who use social media, so that the sample is homogeneous (Hanaysha et al., 2021; Rashid et al., 2022). Considering that the study tests the theory of perceptions of social network use, social network communication, and social network information, the use of maximally homogeneous samples is justified (Calder and Tybout, 1999; Sharma et al., 2022b).

Partial Least Squares Structural Equations Modelling (PLS-SEM) with SmartPLS 3 software was used to analyse the collected data. PLS-SEM was applied because it allows the simultaneous analysis of the interrelation of several latent variables. In this way, the analysis of complex models with many manifest variables and theoretical constructs is possible, with no requirements on the distribution of manifest variables.

4. RESEARCH RESULTS

4.1. Sample profile

The conducted primary research included 404 respondents who stated they were social network users, a precondition to participation in the survey. The structure of respondents (Table 1) shows that 76.5% were female and 23.5% were male, while 73.8% are up to 30 years of age.

Table 1: Sample characteristics

Features		Frequency	Percentage
Gender	Female	309	76.5
	Male	95	23.5
Age	up to 20	17	4.2
	21-30	204	50.5
	31-40	96	23.8
	41-50	46	11.4
	51 and over	42	10.1
Educational level	Primary school	4	1
	High school	146	36.1
	Undergraduate study/ College education	30	7.4
	Graduate study/ Higher education	204	50.5
	Scientific master's degree/ MBA/ PhD	20	5
Employment status	Employed	261	64.6
	Student	91	22.5
	Unemployed	52	12.9
Frequency of social networks usage	Once a week or less	3	0.7
	Several times a week	9	2.2
	Once a day	26	6.4
	Several times a day	366	90.6
Social networks used	Facebook	395	97.8
	Instagram	215	53.2
	Google +	88	21.8
	Pinterest	91	22.5
	Twitter	19	4.7
	YouTube	309	76.5
	LinkedIn	59	14.6

By educational level, respondents with a university degree were the most numerous (50.5%), followed by those with a secondary school degree (36.1%), while those with an elementary school degree were the least numerous (1%). Most of the respondents are employed (64.6%), while 22.5% are studying.

Only 12.9% of the respondents who participated in the survey were unemployed.

When asked how often they use social networks, only 3 of the respondents answered "once a week or less" (0.7%). Fully 90.6% of respondents reported using social networks several times a day, 6.4% once a day, but only 2.2% reported using social networks several times a week. In a day, only 3.5% of respondents spend 15 minutes or less on social networks, 33.7% spend more than 2 hours, and 38.6% spend 1-2 hours, while 22.8% of respondents use social networks for about half an hour a day.

The largest number of respondents connect to social networks through their cell phones: 46% said they always do so and 19.1% frequently. Most respondents said they never use a tablet (65.3%) or desktop computer (50.5%) to connect to social networks.

Respondents were asked to select the networks they use. The collected responses show that, as expected, Facebook is the social network used by the largest number of respondents, 97.8%. It is followed by YouTube, used by 76.5% of respondents, and Instagram, on which 53.2% of respondents have a profile. Since the question allowed respondents to name a social network other than the one indicated, less than 1% mentioned Snapchat, Tumblr, Xing, 9gag and Dots.

In addition, the results show that most respondents reported using Facebook most often, always (33.2%), and often (31.7%). Most respondents indicated that they never use Twitter (88.1%), LinkedIn (75%), or Pinterest (62.6%). Although 76.5% of respondents said that YouTube is one of the social networks they use, they mostly use YouTube only occasionally (40.6%).

4.2. Evaluation of the model

Prior to testing the convergent and discriminant validity of the reflective measurement models, the internal consistency of reliability was evaluated first. Table 2 presents the values of outer loadings, the Cronbach's alpha coefficient, the composite reliability indicator (C.R.), and the average variance extracted indicator (AVE).

Table 2: Measurement model analysis, construct reliability and validity

Indicators	Items	Code	Outer Loadings	Cronbach's Alpha	C.R.	AVE
Social networks usage	I use social networks to get ideas about which destination to choose	USE1	0.893	0.931	0.948	0.784
	I use social networks when I want to make a shortlist of the destinations I would like to visit	USE2	0.915			
	I use social networks when I want to make sure that I have chosen the right destination	USE3	0.886			
	I use social networks when I am looking for ideas and information about accommodation opportunities	USE4	0.868			
	I use social networks when I am looking for ideas and information about excursions and other activities available in the destination	USE5	0.865			
Communication on social networks	Using social networks helps me to communicate faster	COM1	0.868	0.831	0.898	0.734
	Using social networks makes communication easier for me	COM2	0.844			
	Communication via social networks has helped me improve my knowledge about a destination	COM3	0.858			
Information on social networks	Using social networks makes me more efficient in gathering information	INF1	0.839	0.920	0.937	0.679
	On social networks I can get information that can't be found elsewhere	INF2	0.813			
	It is easier to find information on social networks than from other sources	INF3	0.827			
	The use of social networks increases the quality of gathered information	INF4	0.795			
	Using social networks makes it easier for me to gather the information I want/need	INF5	0.913			
	The information I need is available to me at the right time	INF6	0.860			
	It is important to me that data on social networks is kept up to date	INF7	0.708			
Decision making	The information I gathered will influence my final choice	DEC1	0.895	0.931	0.898	0.784
	Communication via social networks has helped me make a decision concerning travelling	DEC2	0.912			
	I feel that my participation in social networks is beneficial	DEC3	0.779			

No indicator variable has outer loadings smaller than 0.7, so no indicator was rejected (Hair et al., 2017). Using a bootstrap procedure based on 5000 sub-samples, the outer loadings of all indicator variables are statistically significant at the 5% level.

Cronbach's alpha coefficient values range from 0.831 to 0.931, indicating good internal

consistency for Communication on social networks, and excellent internal consistency for the three indicators of Social networks usage, Information on Social networks, and Decision making. The C.R. values are above the recommended 0.7, and range from 0.898 to 0.948. The AVE values are all above 0.5, and range from 0.679 to 0.784. In this way, the internal consistency of reliability and

convergent validity were tested (Hair et al., 2017). Direct inference statistical tests of model fit and model parameters are not presented because there is still no consensus in the scientific literature which indexes should be used to assess the quality of models, as well as the ways of calculating such indexes or the size of cut off values to assess the model quality (Hair et al., 2017).

Table 3 provides the discriminant validity of the measurement model, assessed by the Fornell-Larcker criterion (Fornell & Larcker, 1981). On the diagonal, the square roots of the AVE values of the indicators are greater than the values below the diagonal, the correlations of the indicators to each other. Therefore, the Fornell-Larcker criterion is met and the model has a satisfactory level of discriminant validity.

Therefore, Social networks usage has a statistically significant positive effect on Decision making, as do Communication on social networks and Information on social networks. The construct Decision making is jointly explained by 72.8%, which is considered substantial. In explaining the construct Decision making, the f^2 effect size of Social networks usage is considered large (0.428), while Communication on social networks (0.051) and Information on social networks (0.088) both have small effect sizes.

The results of the structural model evaluation show that the construct Social network usage has significant, positive and direct effects on Decision making ($\beta=0.469$; $p<0.05$), while Communication on social networks ($\beta=0.199$; $p<0.05$), and Information on social networks has a weak direct effect on Decision making

Table 3: Fornell-Larcker criterion

	Social networks usage	Communication on social networks	Information on social networks	Decision making
Social networks usage	0.885			
Communication on social networks	0.593	0.857		
Information on social networks	0.682	0.804	0.824	
Decision making	0.782	0.593	0.767	0.864

4.3. Hypotheses testing

The structural model was examined using path coefficients (beta), t-values, the coefficient of determination (R^2), and the effect size (f^2). The structural model analysis has proven that all the hypotheses cannot be rejected at the 0.1% level (Table 4).

($\beta=0.288$; $p<0.05$).

The results of the testing confirm the acceptance of all three hypotheses from this research.

5. DISCUSSION

The aim of this work was to study the

Table 4: Analysis of the structural model

	Structural relationships	Original sample-standardized coefficient (β)	t-values	R^2	f^2 - effect size	Hypotheses tested
H1	Social networks usage → Decision making	0.469	8.990	0.728	0.428	Supported*
H2	Communication on social networks → Decision making	0.199	3.724		0.051	Supported*
H3	Information on social networks → Decision making	0.288	4.398		0.088	Supported*

* $p<0.001$

decision-making process of choosing a destination influenced by the use of social networks, communication in social networks and information in social networks. The conducted study on the perceptions of tourists shows that the use, communication and information in social networks, which arise from the usefulness of the social network community, influence the decision-making process in choosing a destination. Respondents confirmed that they spend on average about one hour per day on social networks and very often more than two hours per day, and that they use social networks to learn about destinations that interest them and how they use social networks to plan their trips. This study shows that social media platforms have a significant impact on consumer decision making. By confirming the *H1: Social network usage is positively related to the decision-making process of choosing a travel destination* it is proven that social media usage have a statistically significant positive direct effect on travel destination choice. According to the model of tourist behavior, it is common to do research before visiting a destination, and so it is not surprising that social networks are the place and platform where tourists do their initial research before choosing a destination.

When communicating through social networks, users can share their opinions, attitudes and experiences, they can also explore and learn about new aspects, get information, understand others' thoughts and share experiences. The hypothesis *H2: Communication in social networks is positively related to the decision-making process when choosing a travel destination* indicates the strong effect of the communication type for choosing the destination. Social networks allow interactive communication, which creates advantageous conditions for both sides. In addition to easier and faster access to information, tourists can directly ask a question to be answered in the shortest possible time, and also get a better and more accurate picture of the object of study by communicating with other users of social networks. On the other hand, destinations receive feedback from users, existing and potential tourists, and can get information faster and easier, based on which they can work on their own improvement. This plays a

very important role for destinations, and future tourists, too.

As proven by the third hypothesis *H3: Information on social networks is positively related to the decision-making process of choosing a destination*. The information gathered on social networks gives an insight into the perception of potential tourists, and the results obtained for destinations underline the importance of having a profile on social networks and keeping it up to date.

6. THEORETICAL IMPLICATION

According to Leung et al. (2013), for the hospitality sector, it was found that consumers use a variety of social media platforms to share their travel experiences, interact with others, and purchase travel services through online platforms. The confirmation of H1, H2, and H3 proves that social media use, social media communication, and social media information have a statistically significant positive effect on travel destination choice.

The results show that the information gathered on social networks, the communication used, and the general use of social networks can guide, shape, and redirect primary and final decisions (Fotis et al., 2012). As the importance of social networks in hotel decision making is recognised (Gupta, 2019; Varkaris & Neuhofer, 2017), used when selecting a destination prior to trip planning (Mariani et al., 2019) and conceptualised for destinations (Dwityas & Briandana, 2017), this research provides some useful practical implications for tourism marketers to better understand traveller behaviour in terms of social media use, information sources, and communication in relation to the decision-making process when selecting a destination.

Social networks and the Internet have proven to be more advantageous advertising media compared to traditional one-way media: A major advantage of social networks is their ability to reach tourists (Kang, 2011). They allow interactive communication, creating favourable conditions for both sides. Not only do they provide tourists with an easier and faster way to access information, but they also allow them to make direct inquiries to which they should receive a response in the shortest possible time, and they help tourists get a better and more accurate picture of the subject

of their research through communication with other social network users.

The conclusions from this study, conducted with users of social networks, will contribute to further research of the theory and the application of recommendations in practice. Unlike the studies by Gupta (2019) and Paul et al. (2019), this work examined the decision-making process with quantitative data, as suggested by Leung et al. (2013), due to the limited scales available.

7. MANAGERIAL IMPLICATION

By communicating through social networks, users can share and exchange opinions, attitudes, and experiences, perceive and explore new horizons, obtain information, and learn to understand the way other people think. The many opportunities offered by social networks make them the most widely used media for marketing communication. A major disadvantage of communication and marketing through social networks is the fact that a large number of advertisements are classified as spam or are unsolicited messages that are very often ignored by users. Communication through social networks offers important benefits and requires management to enable destinations to improve communication with potential tourists through social networks in order to extend the season, increase tourist numbers, and improve business performance in general. This study offers useful practical implications for tourism marketers to better understand and communicate on social media. The raised questions proves shed a new light and knowledge on social media, especially for communication, social media use, and information sources in relation to the decision-making process when selecting a destination.

Social networks are therefore increasingly used to acquire new information; they are increasingly used to plan trips and learn about destinations. This makes it all the more important for destinations to have a presence on social networks. Marketers know that it is now essential for destinations to have profiles on social networks, as this allows them to reach a large number of users, which is growing day by day, and makes it easier for users to obtain relevant information about the destinations they are interested in. As a means of changing behaviour, bringing about change,

achieving information productivity, and reaching goals, information transfer is absolutely essential in the tourism sector. Destinations should recognise this as an opportunity for improvement and take advantage of the opportunities offered by the virtual world.

8. LIMITATION AND FURTHER RESEARCH

This study is a preliminary study to better understand the studied relationships between the use of social networks, communication in social networks and information in social networks that influence the decision-making process of potential tourists when choosing a destination. It has some limitations that need to be taken into account: First, it focused primarily on social network users, thus limiting the sample. Because the study specifically targeted social network users, it does not provide insight into the opinions of non-users. Respondents who use social networks for personal reasons agree that they also use the networks to gather information needed to plan trips; however, there are still a certain number of respondents who do not use social networks for this purpose. The reasons why social networks are not used for information gathering need to be further explored so that specific actions can be taken to bring social networks and this market segment closer together. Research conducted via the Internet should be supplemented with surveys to include the portion of the sample that does not use the Internet or social networks and to better understand their perspective. In order for the information to be as reliable as possible, the research should be conducted over a longer period of time. For future research, it is recommended to investigate what could be the biggest problems of today's social network services that also affect the decision-making process, i.e. user protection, privacy, content protection and related issues.

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PREDICTING SELFIE-POSTING BEHAVIOR THROUGH SELF-ESTEEM, NARCISSISM AND EXHIBITIONISM AMONG INDIAN YOUNG YOUTH

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ABSTRACT

The phenomenon of taking and sharing selfies on social networking sites (SNSs) has become pervasive in everyday life. This empirical study was carried out to investigate significant predictors of selfie-posting behavior. A web-based survey was conducted on social media users geographically located in Lucknow (India). A total of 1073 social media users participated in the survey. Structural Equation Modelling (SEM), an interdependence technique, was employed for the measurement and the structural relationship among the latent factors. The study confirmed that self-esteem and narcissism are significant predictors of selfie-posting behavior. However, exhibitionism is not a significant predictor of selfie-posting behavior. Moreover, self-esteem is also a significant predictor of narcissism. The findings of the present study underline that Facebook (26.3) per cent was a top platform for groupies selfie posting; similarly, WhatsApp (25.8) per cent was noted as the top platform for individual selfie posting.

Keywords: Selfie-Posting Behavior, Exhibitionism, Self-Esteem, Narcissism, SEM

Introduction

Facebook, Twitter, Instagram, and Snapchat are the most popular and frequently used social networking sites among young people (Perloff, 2014). Their widespread availability has enthralled billions of people worldwide (McCrory et al., 2020). Many have become accustomed to social media and spend a significant portion of their daily lives on these platforms (Rideout et al., 2010; Sample, 2019; Sharma et al., 2022a). Far-flinging connectedness and easy communication through smartphones and tablets have multiplied the popularity of social networking sites (Valkenburg et al., 2006; Sawyer, 2011; Sharma, 2021). Individuals can now create their profiles and exchange information and photos with other members on social networks (Stefanone et al., 2011). According to a report published by Statista Research Department, over 3.6 billion people used social media in 2020, which is expected to rise to nearly 4.41 billion by 2025 (Statista, 2021). The report further states that internet users spend an average of 144 minutes every day on social media (Statista, 2021). This whopping number shows the increasing popularity and widespread adaptability of social media sites globally. In common parlance, young people aged 18-29 are the highest social media users,

and hence selfies are rampant at this stage. Previous research has shown that young women take and post more selfies on social media than men (Biolcati, 2019).

A selfie is a self-portrait photograph shot with a digital camera or a smartphone and shared on social networking sites (Moreau, 2015). Taking selfies and groupies and publishing them on social media has become a popular online activity (Wang et al., 2017). According to previous studies, selfies and groupies are the most popular photographs shared on social media among young people (Hu et al., 2014; Jang et al., 2015). This domain of knowledge has gained scholarly attention in recent years. Still, selfie-posting behavior is an emerging topic in academia. The majority of selfie research talked about selfies and individual differences (Qiu et al., 2015). Previous studies on selfies focused on the phenomenon as a personality trait (Qiu et al., 2015) or a set of self-regulatory behaviours used to satisfy narcissism (Barry et al., 2017) or seek peer recognition (Chua & Chang, 2016). Scholars have shown that men post a selfie on social networking sites (SNSs) according to the conventional standard of masculinity opponent to these women expose themselves as affiliative. Through online activities,

women try to be in touch and expand their social networks and seek social satisfaction (Joiner et al., 2012; Dhir et al., 2016; Biolcati, 2019).

Selfie-presentation and self-preoccupation lead to better social self-esteem (Bodroža et al., 2022). Selfie-posting behavior increases one's egotism or vice versa (Sorokowski et al., 2015; Wang et al., 2018). Selfie-posting behavior through social networking sites was also examined using the theory of planned behavior (TPB). The results confirmed that attitude towards selfie-posting behavior, subjective norms, perceived behavioural control and narcissism are the significant predictors of intention to post-selfie (Weiser, 2015). The primary motivations for selfie-posting are attention-seeking, communication and entertainment (Kim & Chock, 2017).

Previous studies critically examined selfie-posting behavior in the context of motivation (Patil et al., 2019; Pounders et al., 2016) and its association with personality traits (Sorokowski et al., 2016). However, there are fewer studies that have examined the impact of selfie posting behavior on self-esteem, narcissism and exhibitionism and that too among the young youth in the Indian context. Hence, this study bridges this gap by examining whether self-esteem, exhibitionism and narcissism are significant predictors of selfie-posting behavior.

Theoretical Background and Hypotheses Development

A "Selfie" is a self-portrait snapshot taken with a smartphone held in hand or supported by a selfie stick and posted on social media platforms like Facebook, Instagram, and Snapchat (Richa et al., 2021). Oxford Dictionaries declared it the word of the year for 2013. This neologism describes the process of photographing oneself and posting it on social media (Shin et al., 2017). With the rise in popularity of the selfie, several types of research examining selfies from a socio-psychological standpoint have developed. These researches can be divided into two categories: first- studies that look at the relationship between personality traits and selfies (Chua & Chang, 2016; Sorokowski et al., 2015; Weiser, 2015), and second- research that looks into how people react to selfies in social situations (Lu et al., 2015; Mazza et al., 2014).

The first category emphasizes that a selfie is a powerful tool for self-presentation, which is the foundation for the second group of studies (Shin et al., 2017). Few empirical studies have empirically investigated how taking and sharing selfies influence selfie-takers (Chua & Chang, 2016).

Many studies to date have demonstrated that selfie-posting behavior is positively associated with narcissism and that too in men (Fox & Rooney, 2015; Sorokowski et al., 2015; Weiser, 2015). However, there is a scarcity of information about their personality traits (Sorokowski et al., 2015). Nadkarni and Hofmann (2012) indicated that social media usage serves two essential social needs: the need for belongingness and the need for self-presentation. Previous studies have explained a broader range of behaviours related to self-presentation on social media platforms, such as choice of Facebook profile picture and other online photo sharing behaviours (Back et al., 2010; Gosling et al., 2011; Ong et al., 2011; Stefanone et al., 2011). Selfie or groupie posting can be considered a form of self-disclosure behavior. In addition to social comparison theory, social capital theory and uncertainty reduction theory could explain reasons for self-disclosure on social media (Wang et al., 2017). According to Ellison et al. (2007), there is a strong association between utilizing Facebook and bridging social capital. People with low self-esteem and life satisfaction benefit the most from Facebook. People with lower self-esteem gain more from Facebook than the people who have higher self-esteem (Steinfeld et al., 2008).

Contrary to this, Forest and Wood (2012) claimed that Facebook was classified as a safe and enticing tool for persons with poor self-esteem, with their posts being higher in negative and more positive. This paradoxical result implies that different social media uses can affect one's self-esteem differently. In addition to the theory of social capital, uncertainty reduction theory might also predict the self-disclosure behavior of people (Wang et al., 2017). Concerns about online teen privacy have indicated improved privacy habits and less information for teens (Chen et al., 2015). Some privacy strategies may minimize uncertainty to make interaction easier. It is evident from these two theories that sharing selfies and groupies on social

networking sites could improve social capital so that the psychological advantages of using social media, such as increasing self-esteem and life satisfaction, are enhanced.

Social comparison theory says that there might be upward or downward comparisons between those who often post selfies and individuals who often see a selfie. People who often post selfies and groupies on social networking sites exhibit higher self-esteem and narcissism than those who rarely post selfies and groupies (Wang et al., 2017). Similarly, people who frequently see selfies and groupies on social networking sites might have lower self-esteem and life satisfaction than those who rarely see selfies and groupies (Wang et al., 2017). Hence, all three theories are the building blocks for the present study and pave the theoretical foundation for hypotheses formulation.

Self-Esteem and Selfie-Posting Behaviour

Self-esteem relates to assessing the self-worth or satisfaction an individual makes to evaluate oneself (Shin et al., 2017). It is the global feeling of self-respect or sufficiency or widespread feelings of acceptance, kindness, and self-report (Coopersmith, 1967; Crocker Major, 1989; Rosenberg, 1965). High self-esteem is a powerful predictor of happiness and satisfaction in relationships (Baumeister et al., 2003; Orth & Robins, 2014). To increase self-esteem, people prefer to convey and interpret content on social media depending on their feelings, state of mind, and points of view (Bareket-Bojmel et al., 2016). Previous studies have shown that self-esteem has an impact on social media usage (Andreassen et al., 2017; Barker, 2009; Błachnio et al., 2016; Ehrenberg et al., 2008; Wang et al., 2012).

Favourable comments on social media might increase self-esteem. Contrary to this, unfavourable or negative feedback can create insecurities, high self-consciousness, and low confidence (Fox & Rooney, 2015). People with increased self-esteem were more likely to utilize SNS as a mean of communication with peers (Barker, 2009). They are more intended to comment on profile pictures of other people (Wang et al., 2012). People who exhibit lower self-esteem have a strong addiction to instant messaging and Facebook (Andreassen et al., 2017; Błachnio et al., 2016).

Some other studies also indicate that social media usage has an impact on the level of self-esteem (Shaw & Gant, 2004; Valkenburg et al., 2006). Internet use has been shown to dramatically reduce loneliness and depression, while social support and self-esteem have significantly enhanced (Shaw & Gant, 2004). Social media usage by young people significantly and indirectly influences their social self-esteem and well-being (Valkenburg et al., 2006). It is also evident from the previous studies that positive feedback on social media increases the self-esteem and well-being of young people. In contrast, negative feedback decreases self-esteem and well-being. Therefore, on the basis of evidence found in previous studies, the following hypothesis is postulated for the present study:

H₁: Self-esteem would positively predict selfie-posting behavior.

Narcissism and Selfie-Posting Behavior

Narcissism is defined as "a sense of superiority, self-admiration, and interpersonal exploitiveness" (Bogart et al., 2004; Morf & Rhodewalt, 2001). Narcissists tend to be more self-obsessed, showy, egotistical, self-promoting, and conceited (Fox & Rooney, 2015). Exaggerating one's achievements and talents is common practice among narcissists (Farwell & Wohlwend Lloyd, 1998; John & Robins, 1994). Their primary motive is to get the "admiration" of others. Hence they make efforts to draw "attention" (Rosenthal & Pittinsky, 2006; Morf & Rhodewalt, 2001).

Narcissists look towards the people who make them feel special and enhance the feeling of "self-worth" (Campbell & Foster, 2007). Posting selfies on social networking sites may satisfy the ambitions of a narcissist (Arpaci et al., 2018). For instance, a narcissist may upload a selfie online as a kind of self-aggrandizement in the hopes of receiving "likes" from others. Moreover, narcissism has been demonstrated to be a predictor of online social activity (Sorokowski et al., 2015). Therefore, it is worth studying the linkage between selfie-posting behavior and narcissism. Kapidzic (2013) has found that narcissism is a strong predictor of selfie-posting behavior. A narcissist is more likely to share selfies on social networking sites than others (Wang et al., 2012). A sample of 276

college students confirmed that grandiose and exhibitionistic forms of narcissism are significant predictors of selfie-posting behavior (Koterba et al., 2021).

Age, gender, time spent on social media and narcissism are significant predictors of selfie-posting behavior (Vardeman & Gangadharbatla, 2021). 439 Filipinos students sample confirmed that narcissism is significantly related to selfie-posting behavior, Filipinos men have been seen as more narcissistic comparably women. Previous studies have demonstrated a significant and positive association between narcissism and selfie-posting behavior (Lee & Sung, 2016; Sorokowski et al., 2015; Weiser, 2015). Therefore, on the basis of evidence found in previous studies, the following hypothesis is postulated for the present study:

H₂: Narcissism would positively predict selfie-posting behavior.
Self-Esteem and Narcissism

Self-esteem is defined as one's opinion of oneself, whether positive or negative (Rosenberg, 1965). It is characterized by a broad sense of self-worth or sufficiency as a person, as well as generalized emotions of self-acceptance, goodness, and self-reporting (Coopersmith, 1967; Crocker & Major, 1989; Rosenberg, 1965). Positive comments received on social media may help in boosting one's self-esteem (Richa et al., 2021). On the other side, a lack of positive feedback (likes, comments, etc.) may result in anxieties, hypervigilance, and poor confidence (Fox & Rooney, 2015). Narcissists prefer to divulge more information about themselves and, as a result, crave the adoration of others and thus satisfy their self-esteem (Mehdizadeh, 2010; Davenport et al., 2014).

Selfies are predicted to be posted by narcissists on social media to boost their self-image, that in turn satisfies their self-esteem (Arpaci et al., 2018). Previous studies have found a significant and positive association between self-esteem and narcissism (Lee & Sung, 2016; Halpern et al., 2016; Davenport et al., 2014). Therefore, on the basis of evidence found in previous studies, the following hypothesis is postulated for the present study:

H₃: Self-esteem would positively predict narcissism.
Self-esteem and Exhibitionism

Exhibitionism is known as online self-disclosure. It is an urge to post personal information on social networking sites so that others may admire it (Arpaci et al., 2021). Koskela (2004) defined exhibitionism as "individuals desire to disclose and share their personal details or incidents of personal lives to attract attention of others". Exhibitionism is an attitude of posting a high number of selfies (Fox & Rooney, 2015; Poonia et al., 2021). The most common kind of exhibitionism is shown by archetypal young females pouting in different stances (Richa et al., 2021). Objective Self-Awareness (OSA) theory illustrates that a selective form of exhibitionism, mainly positive presentation on social media, usually boosts self-esteem (Walther, 1996). Earlier research has shown that individuals prefer to exhibit their positive and socially acceptable self-images on social media to generate a favourable impression (Buffardi & Campbell, 2008). Positive forms of self-presentation on social media enhance self-esteem (Cho et al., 2009; Gonzales & Hancock, 2011). High levels of exhibitionism are associated with a greater propensity to draw the attention of others and a higher level of self-disclosure that, in turn, satisfies the need for self-esteem (Murray, 2015). Therefore, on the basis of evidence found in previous studies, the following hypothesis is postulated for the present study:

H₄: Self-esteem would positively predict exhibitionism.
Narcissism and Exhibitionism

Narcissism is an element of a personality trait that was discernible by the lavish and a too optimistic self-view in context with individual physical appearance (Kim et al., 2016). An individual having narcissistic nature presents gorgeous and self-propelled photos themselves on SNSs (Chua & Chang, 2016; Diefenbach & Christoforakos, 2017; Fox & Rooney, 2015). Physical attractiveness may also be one of the underlying causes of narcissistic self-focal points and public display over SNSs. In order to make a show of their superiority over others, narcissists often resort to exhibitionism (Rose & Campbell, 2004). Narcissists feel they are exceptional and

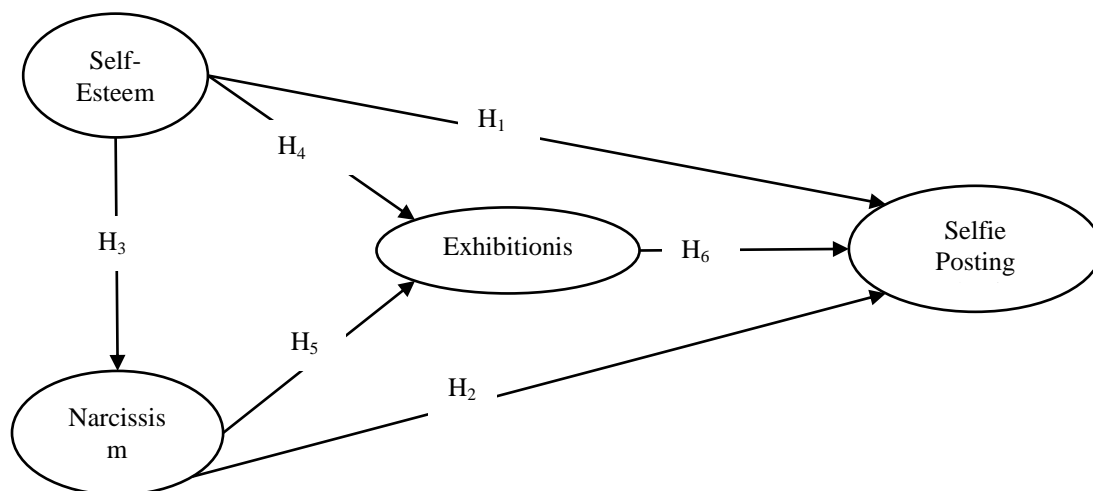
unique and, as a result, are entitled to more than others and hence exhibit themselves (Brunell et al., 2011). Therefore, on the basis of evidence found in previous studies, the following hypothesis is postulated for the present study:

H₅: Narcissism would positively predict exhibitionism.
Exhibitionism and Selfie-Posting Behavior

The growth of selfie culture has been widely

Baym (2015) as well as Eunice et al. (2016), have made connections between selfie addiction and harmful mental states such as narcissism and hyperactivity (Nauert, 2015; Barry et al., 2017), body dysmorphia (McKay, 2014), psychosis (Gregoire, 2015), and accident-causing behavior (McKay, 2014) by paying more attention to the camera than one's surroundings (Hughes, 2015). Therefore, on the basis of evidence found in previous studies, the following hypothesis is postulated for the present study:

Figure 1 Proposed Research Model



ascribed to two fundamental factors: narcissism and self-esteem (Walker, 2013;

H₆: Exhibitionism would positively predict selfie-posting behavior.

Weiser, 2015; Kathrynnetal., 2016; Wang et al., 2017). The relationship between selfie posting habits and numerous personality qualities such as preoccupation, self-image, social support, desire for connection, narcissism, hyperactivity, perfectionism, and impulsivity have been investigated in several research (Wortham, 2013; Martino, 2014; Singh & Tripathi, 2016; Jain et al., 2021). According to the findings, people who share selfies and strive for the ideal selfie are shown to be egotistical and obsessed (Richa et al., 2021). Fox and Rooney (2015) concluded that selfie posting activity is significantly connected with personality characteristics, with selfie posting being greater among men who self-report narcissism being the most common kind of behavior. Seidman (2015) and Weiser (2015) discovered that social exhibition, defined as adoration and a sense of superiority, has a demonstrated beneficial impact on the behavior of people who post selfies on social media. Several authors, including Senft and

Methodology

Procedure and Participants

The target population for the present study comprises social media users in Lucknow (India). Participants were selected randomly and not any specific bifurcation was made. Data was collected from those social media users who assisted the researcher in increasing statistical power and accomplishing greater occupational heterogeneity (Langelaan et al., 2006; Rashid et al., 2022; Sharma et al., 2021). A total of 1500 social media users were contacted, out of which 1073 returned duly filed questionnaires and hence constituted the sample for the study. The data of this study was collected with the help of a self-administered questionnaire (Hanaysha et al., 2021) via both personal visits using random sampling to the concerned social media users and a web-based questionnaire using snowball sampling. This study is purely cross-sectional; a non-experimental correlation field study design was followed (Sharma et al., 2022c).

The responses ranged from 1 (*strongly disagrees*) to 5 (*strongly agree*).

Measures

Selfie Posting Behavior: Selfie posting behavior was measured using five statements adopted from Arpaci et al. (2018). All items were measured using a 5-point fully labelled Likert scale (1=strongly disagree; 5= strongly agree), and responses were averaged for later analysis (M=4.40, SD=1.58; Cronbach's α =.799). The sample item is *I enjoy posting a selfie on social media*.

Self-esteem: Self-esteem was measured using the four statements adopted from the scale developed by Rosenberg (1965). It is the most widely used and the best scale available in the existing literature that measures self-esteem. The sample statement is that *I feel that my selfie has a number of good qualities*. The items were later on averaged for subsequent analysis (M=4.49, SD=1.45; Cronbach's α =.84). All items were measured using a 5-point fully labelled Likert scale (1=strongly disagree; 5= strongly agree).

Narcissism: It was assessed using the 13-item Narcissism Personality Inventory (NPI-13) which was developed by Ames et al. (2006). The sample statement is *everybody likes to see my posted selfie on social media*. The items were later on averaged for the subsequent analysis (M = 4.27, SD =1.38; Cronbach's α =.86). All items were measured using a 5-point fully labelled Likert scale (1=strongly disagree; 5= strongly agree). **Exhibitionism:** The well-tested scale for the measurement of exhibitionism was adopted from the literature developed by Hollenbaugh and Ferris (2014). It is the most widely available scale in the existing literature which exactly measures exhibitionism. The sample statement is *posting selfies for attention by the people*. The items were later on averaged, for further analysis (M = 4.09, SD =1.42; Cronbach's α =.90). All items were measured using a 5-point fully labelled Likert scale (1=strongly disagree; 7= strongly agree).

Results

Around 52.4 per cent of the respondents were noted to be female (M = 1.52 , SD =.49). Most of the respondents fall in the age bracket of 20-25 years (M = 1.65, SD =.73). The descriptive analysis showed that 26 per cent of respondents posted a selfie on WhatsApp, and 25.8 per cent posted on Instagram. Facebook (26.3 per cent) was the top platform for groupie selfies, followed by WhatsApp (26 per cent) and Twitter (24.5 per cent). The correlation coefficient was the most widely used and applicable statistical method in summarizing social and scientific research data (Benesty et al., 2009). The correlation coefficient of the measured variables is presented in Table 1. A correlation value of zero indicates that no association between measured variables is similarly closer to the value of r coefficient irrespective of the directions; the stronger the linear relationship between the two variables, the more commonness (Taylor, 1990: Sethi, Pereira, & Arya, 2021; Islam et al., 2021; Arya, Sethi, & Paul, 2019; Arya, Verma, Sethi, & Agarwal, 2019; Arya, Sharma, Sethi, Verma, & Shiva, 2018)

Table 1 Constructs correlation among the variables

Constructs	SP_B	E_X	N_	S_E
SP_B	1			
E_X	.191**	1		
N_	.495**	-.022	1	
S_E	.662**	.234**	.529**	1

Note: ** $p < 0.01$, SP_B=Selfie-posing behavior, E_X=Exhibitionism, N_= Narcissism, S_E=Self-esteem

As shown in table 1 selfie posting behavior was correlated with exhibitionism ($r=.191, p<.01$), narcissism ($r=.495, p<.01$) and self-esteem ($r=.662, p<.01$). Exhibitionism with narcissism ($r=-.022, p>.01$) and self-esteem ($r=.234, p<.01$). Narcissism with self-esteem ($r=.529, p<.01$).

Table 2 Normality Statistics

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SP_B	.070	329	.000	.967	329	.000
N_	.085	329	.000	.956	329	.000
S_E	.100	329	.000	.947	329	.000
E_X	.457	329	.000	.433	329	.000

Note: SP_B=Selfie-posing behavior, E_X=Exhibitionism, N_= Narcissism, S_E=Self-esteem, df= degree of freedom. Sig.= Significance.

The most important assumption in multivariate analysis is that the data set is normal, resulting in a normal distribution or bell-shaped curve. The K-S test (Kolmogorov-Smirnov) was used to check for normalcy in the current investigation.

The K-S test resultant figure is clearly expressed in terms of the significance level of less than 0.05 in Table 2, indicating that divergence from normality (Field, 2013; Hair, 2009; Shapiro et al., 1968). The K-S test indicates that they are significant, implying that the null hypothesis H_0 : data was not

normally distributed; all variables failed to meet the multivariate analysis' normality requirement. As a result, previous researchers have suggested that if the data is not normally distributed, the researcher can use multivariate analysis techniques such as the structural equation model (SEM) (Booth & Lee, 2003; Field, 2013; Hair, 2009).

Psychometric properties (convergent validity, discriminant validity and reliability) of the measurement model were assessed using SPSS version 20.0. Table 3 shows that the results of the average variance extracted (AVE) value

Table 3 Reliability and Validity Statistics

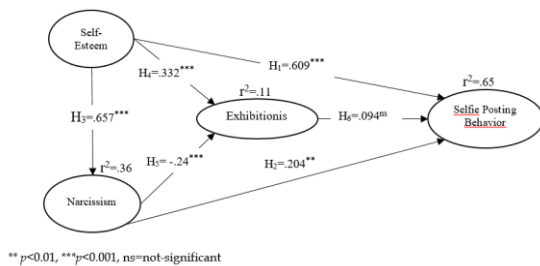
<i>Constructs/Statements</i>	<i>Loading</i>	<i>CR</i>	<i>AVE</i>	<i>MSV</i>	<i>Cronbach's α</i>	<i>VIF</i>
<i>Self-Esteem (SE)</i>		0.807	0.512	0.493	.842	1.895
On the whole, I am satisfied with my selfie ***.	0.779					
I feel that my selfie have number of good qualities ***	0.675					
I am able to do things as well as most other people***	0.714					
I feel that I am a person of worth ***	0.689					
<i>Exhibitionism (E_X)</i>		0.903	0.701	0.473	.902	1.101
Posting selfie for attention by the people ***	0.864					
Because my posted selfie make me cool among my peers***	0.910					
Posting selfie to gain fame or notoriety***	0.814					
Because I like when people see selfie about me***	0.754					
<i>Selfie Posting Behavior (SP_B)</i>		0.800	0.693	0.593	.799	1.823
I post selfie on social media. ***	0.633					
I think using social media for posting selfie is good idea ***	0.685					
I enjoy posting selfie on social media. ***	0.589					
I encourage my peers to post selfie on social media. ***	0.635					
I help my peers to post selfie on social media. ***	0.663					
<i>Narcissism (N_)</i>		0.857	0.502	0.387	.865	1.490
I know that my selfie are good because everybody keeps telling me so ***.	0.753					
I like to be the centre of attention while posting Selfie. ***	0.814					
Everybody likes to see my posted selfie on social media. ***	0.669					
I think I am a special person ***	0.624					
I expect great deal at posted selfie on social media from other people.***	0.602					

Note: SP_B=Selfie-posing behavior, E_X=Exhibitionism, N_= Narcissism, S_E=Self-esteem.

VIF= Variance Inflation Factor, CR= Composite Reliability, MSV=Maximum Shared Variance.

were ranged between .668 to .783, which is more than the benchmark of 0.5, suggesting convergent validity (Sundin & Horowitz, 2002). Additionally, the square root of the AVE (presented in Table 3) for each latent variable is greater than the correlations, signifying the discriminant validity. Further, composite reliability (CR) coefficients are greater than the threshold limit of 0.7 (Bacon et al., 1995, Field, 2013). Model test indices were examined before testing the proposed hypotheses by conducting a confirmatory factor analysis (CFA). Model fit indices are found to be satisfactory CMIN/DF=2.25, GFI=.905, CFI=.937, NFI=.893, IFI=.937, RMSEA=.062, RMR=.047)

Figure 1 Structural Model with Standardized Estimates



SEM approach was deployed using SPSS AMOS 23.0 to check the structural relationship among the latent variables. The validity and reliability of the study's constructs are assessed qualitatively using the measurement model (Henseler et al., 2009). An adequate model fit was checked with the following indices: CMIN/DF = 2.662, GFI = 0.995, CFI = 0.995, RMSEA = 0.039 and RMR=.034. The quantity of the observed and predicted covariance matrices was revealed using SEM statistics' chi-square (CMIN/DF) indices. The discrepancy function adjusted for sample size is equivalent to the comparative fit index (CFI) (Benson & Fleishman, 1994; Curran et al., 1996; Moutinho & Hutcheson, 2014; Ansari & Khan, 2020; Nasir & Khan, 2018; Nasir et al., 2018).

The path coefficient has been presented in figure 1, in which each hypothesis is linked with the other. Interestingly, out of six hypotheses, five were seen to be accepted, and 36 per cent variance explained in narcissism, 65 per cent variance explained in selfie-posting behavior, and 11 per cent variance explained in exhibitionism. Self-esteem had a significant impact on selfie posting behavior ($\beta=.609, p<0.001, C.R.=6.46$) and narcissism ($\beta=.204, p<0.01, C.R.=2.6$), supporting H1 and H2. Significant impact was also seen on narcissism by self-esteem ($\beta=.675, p<0.001, C.R.=7.38$) supporting H3. Additionally, a significant effect was also seen on the exhibitionism of self-esteem ($\beta=.332, p<0.001, C.R.=4.77$), supporting H4. Additionally, narcissism was seen to be significantly and negatively impacted by exhibitionism ($\beta=-.24, p<0.001, C.R.=-3.32$), supporting H5. Lastly, an insignificant influence of exhibitionism was noted on selfie posting behavior ($\beta=.094, p>0.001, C.R.=1.40$), thus not supporting H6.

Discussion and Conclusion

In antique times, people took a group of pictures and kept them for numerous reasons for records and remembrance, but the present era is something different. The significant phenomenon of selfie-posting is extensively broadened in an everyday context. Especially, "millennials" reaching young maturity early in the 21st century, take a lot of selfies and share them on various social media, viz. Facebook and Instagram. Most of the previous literature stressed that popularity of the posting selfies comes from technological advancements like smartphones and the emergence of various social media platforms. No doubt technological advancement eases creating an eco-friendly environment for the people to take and share pictures just by having a single click. However, the authors do not solemnly believe that all mentioned factors can be sufficiently justifiable for selfie-posting behavior.

Table 4 Hypothesis at a glance

<i>Hypothesis</i>			<i>Estimate</i>	<i>S.E.</i>	<i>t-values</i>	<i>P</i>	<i>Result?</i>
SP_B	<---	S_E	0.60	0.09	6.46	***	Significant
SP_B	<---	N_	0.20	0.07	2.60	0.009	Significant
N_	<---	S_E	0.65	0.08	7.38	***	Significant
E_X	<---	S_E	0.33	0.07	4.77	***	Significant
E_X	<---	N_	-0.24	0.07	-3.32	***	Significant
SP_B	<---	E_X	0.09	0.06	1.40	0.159	Insignificant

Note: S.E= Standard error, *** $p < 0.001$ ** $p < 0.01$ *

The predicting role of self-esteem, narcissism and exhibitionism on selfie-posting behavior was renowned from the previous studies in the selfie domain (Fox & Rooney, 2015; Kim & Chock, 2017; Lee & Sung, 2016; Weiser, 2015). The growing theatrical tendencies of photo-sharing on online social networking sites and social media platforms have sparked a new online social phenomenon that involves snipping self-portrait photographs and posting them on online social networking sites to get popularity. Selfies have become an iconic part of contemporary culture, and the increasing number of taking photos and sharing them on social media has now become a global challenge. Despite the increasing attention given in popular media, academic research in this domain has been quite limited. Online social media is used by millions of users every day across the world for a variety of reasons, including informal gossip and chats with family, business conversations, and product marketing (Błachnio et al., 2013; Sharma et al., 2022b). Similarly, the utilization of social media can also be seen as a tool for self-promotion (Moon et al., 2016). In recent years, Facebook got popular due to its increasing number of users. As per Statista Report, there are 340 million active Facebook users in India ("Facebook users by country 2021).

This study used social comparison theory to examine the significant predictors of selfie-posting behavior of the social media users in Lucknow India. Ultimately, the main objectives of this study were to identify the predictors of selfie-posting behavior. Accordingly, the study proposed a study model, in which exhibitionism mediates the relationship between self-esteem, narcissism and selfie-posting behavior. Results indicated that self-esteem and narcissism significantly and positively predicted selfie-posting

behavior. Similarly, self-esteem and narcissism also significantly and positively predicted exhibitionism. This finding is the toning (Wang et al., 2017), as well as the previous studies that confirmed that online posting selfies have a positive and significant influence on individual self-esteem (Shin et al., 2017). Practically speaking, a 1 unit increase in narcissism positively tends to a .20 unit increase in self-posting behavior. Although, individuals with high narcissistic in nature frequently post selfies on social media. Our result is, therefore, consistent with the previous research on narcissism (J. W. Kim & Chock, 2017) and self-esteem (Sorokowska et al., 2016; Wang et al., 2018). Dark Triad (narcissism) predicted selfie posting behavior (Fox & Rooney, 2015; Kim & Chock, 2017; Lee & Sung, 2016). Consistent with our hypotheses, we found that exhibitionism mediates the relationship between self-esteem and narcissism; narcissism and self-esteem significantly and positively predicted selfie-posting behavior. In the past, selfie-posting behavior related studies mainly emphasized personality traits (Sorokowska et al., 2016; Weiser, 2015), while others focused on body research (Fox & Rooney, 2015; Ridgway & Clayton, 2016; Wagner et al., 2016). However, these two pieces of research have largely developed with each other, and the possible relation between personality traits and body image variables is overlooked. The present study innovatively integrated narcissism, self-esteem and exhibitionism and tested significant predictors of selfie-posting behavior. Narcissistic individuals post more selfies on SNSs the reason being that people feel satisfied with their bodies. Thus, our study extends previous results concerning the positive and significant relationship between narcissism and selfie-posting behavior (Weiser, 2015; Gupta & Srivastava, 2021; Goyal, Chauhan, & Gupta, 2021; Prashar &

Gupta, 2020; Gupta, Chauhan, Paul, & Jaiswal, 2020, Sharma, Zheng, & Bhaskar, 2019; Sharma et al., 2022a)

The current study confirmed the previous finding narcissism is a significant predictor of selfie-posting behavior (Scott et al., 2018). Users with a narcissistic (self-love, admired) nature generally post selfies on social media (Wang et al., 2018). Plausibly, the narcissist prefers to post more selfies on social media to display their assets and capabilities more utterly. They use SNSs as extra tools for publicity, exhibit themselves positively and seek recognition (Wang et al., 2018). The results are congruent with the previous findings self-esteem and narcissism seen to be positively associated (Brown et al., 2012). From the finding, one thing is clear narcissism made a unique positive contribution to individual self-esteem. Thus, individuals higher in narcissism tend to have greater belief in their ability to attain goals, specifically when adding self-esteem (Brookes, 2015)

Theoretical and Managerial Implications

Theoretical Implications

This study first investigated the underlined mechanism of why social media users post a selfie-and what are the significant predictors of selfie-posting behavior? Past research emphasizes selfie-posting behavior on body satisfaction (Wang et al., 2018; Lee & Lee, 2021; Lonergan et al., 2019) and the need for popularity (Utz et al., 2012; Kim, 2020). This study demonstrated that self-esteem and narcissism are the significant predictors of exhibitionism and selfie-posting behavior. A person with high self-esteem tends to post more selfies (Alblooshi, 2015). The result of this study is consistent with the previous research (March & McBean, 2018). High exhibitionism and narcissism lead to more selfie-posting on the SNSs. The results of the current study have both theoretical and practical contributions. Theoretical contribution relates to our understanding of uses and gratification theory. First, this study uncovers the main motive of selfie-posting behavior on social media, which is not identified in the previous literature. This study theoretically contributed in the sense of identifying the most significant predictor (self-esteem) of selfie-posting behavior.

This study contributes to the existing stock of literature in many ways. First, the proposed model manifested in the study represents the influential predictors of selfie posting behavior and thus broadens the scope of behavioural and psychological research streams. Second, this study extends an impregnable understanding of psychological aspects of human behavior and substantiates the existing knowledge. Third, the findings of the present study empirically test and validate the proposed model and thus increases the robustness of the model.

Managerial Implications

In addition to the theoretical implications, several managerial implications could be detached from the findings of the present study. Self-esteem was identified as the most imperative factor in understanding selfie-posting behavior. Thus, self-esteem plays a motivation based on the number of "likes" for selfie-posting behavior. Further examination of data revealed that narcissism significantly predicts selfie-posting behavior. Selfie-posting provides an opportunity for one to oneself feel bad or good. From a psychological aspect, this study could be beneficial as it provides a vivid description of psychological aspects of human behavior, viz. self-esteem, narcissism and exhibitionism and the linkage among them. Psychologists could gain new insights of the subject matter and could better understand human behavior. From the marketing perspective, social media marketers and industry practitioners must design their offerings in such a way that would satisfy the self-esteem of consumers. If it would be so, the consumers would more likely buy the products of said company.

Limitation and Future Research

Unlike the others, this research also has some lacuna that bears in mind for future research. First, the gender disparity limits the generalizability of the findings and prevents our capacity to deepen the role of gender in Selfie-posting behaviours. However, gender differences were not taken into account. So in the future, the same should be stimulated in a more balanced sample. Second, the present study is based on self-reported data which may have a different result. Third, supplementary variables should be considered for upcoming research. As Weiser, 2015 pointed out personality traits (extraversion).

Moreover, it may be worthy to consider two forms of self-esteem the (Kernis et al., 2008) Secure and fragile self-esteem. Despite these limitations, the present study extends the selfie literature highlighting that personality (narcissism) and exhibitionism are the dominant planners of selfie posting behavior on social media. Thus, the results of the present research contribute in this sense to offering valuable understandings of Selfie-posting specifically and social media in common jargon. The current study is based on a single cultural context and did not address cross-cultural comparison; more cross-cultural studies are needed in future.

Data Availability Statement

The dataset generated during and/or analysed during the current study is not publicly available due to respondents' confidential information but is available from the corresponding author on reasonable request.

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USE ME OR USE ME NOT? A COMMUNICATION TOOL - DIGITAL SIGNAGES FOR FASHION APPAREL STORES

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ABSTRACT

Digital signage is a network of exclusive screens installed in retail stores to display diverse content. Fashion retail stores recognize digital signage as a promising technology in the retail environment. This study investigates how aesthetic appeal and designed information are in the extended Unified Theory of Acceptance and Use of Technology (UTAUT 2) model. Brick-and-mortar retailers have embraced digital signages to converse better and change the way individuals get cues in fashion apparel stores. This research analyses what factors influence an individual's decision to use digital signages in fashion apparel retail stores. The partial least squares method evaluated the research model and validated the hypotheses of the data comprised of 418 self-administered individual responses. The results reveal that designed information is the key predictor of behavioural intentions stimulated by digital signages. The results confirm that aesthetic appeal, designed information, habit, and performance expectancy of behavioural intentions are significant predictors. In contrast, two constructs, effort expectancy and social influence, are non-significant for fashion apparel retail stores.

Keywords: Digital signage, Fashion apparel, Retail technology, UTAUT2, Aesthetic appeal

1. INTRODUCTION

The rapid proliferation of e-commerce is a phenomenon (Helm et al., 2020). Although a brick-and-mortar retailer's additional online channel presence boosts overall sales, the sales of a brick-and-mortar retailer can be cannibalized to some extent (Timoumi et al., 2022). The estimated percentage share of fashion brick-and-mortar retailing was 97.5 % in 2017 and is estimated to reduce to 85.7% by 2025. Fashion online retailing was 2.5% in 2017 and is estimated to increase to 14.3% by 2025 (Statista, 2021). On the other hand, existing fashion brick-and-mortar retailers like Shopper stop, Vera Moda, ONLY, Jack and Jones, etc. (Ibef, 2021), and Online retailers (like Myntra, Faballey, Yepme Vajor) (Lamba, 2019) are expanding their footprints in Brick-and-Mortar format. This expansion of brick-and-mortar and the increasing presence of online retailers in brick-and-mortar format indicates that fashion offline retailing is not on the brink of apocalypse. Still, the individuals'

journey is undergoing metamorphosis (Helm et al., 2020). Modern techniques used while integrating marketing communication have a more significant impact on brand equity than traditional marketing communication (Kushwaha et al., 2020). Digital video advertising is a modern marketing communication technique, and it is expected to grow at 12.40% by 2026 (Statista, 2022) .

As a result, offline retailers are adopting technologies like digital signages for communicating (Krymov et al., 2019) with individuals other than print media. Technology is the future of retail and can facilitate decision-making using in-store technology (Grewal et al., 2017). There is a need for the study as many fashion retailers in India have transformed their retail spaces using technology to better communicate with individuals. Fashion retail stores like GAP, Tommy Hilfiger, Being Human, Marks & Spencer, Arrow, Raymond, etc., switched over

their static communication spaces to dynamic digital landscapes using digital signages. (Mairaru et al., 2019) preference for web media communication over TV and print media is evident. Individuals expect the same website communication experience while navigating a brick-and-mortar store (Pauwels et al., 2011).

Digital signage is a network that consists of digital displays centrally managed from a remote location and provides targeted information, merchandising information, advertising, and entertainment (Davies et al., 2014; Sharma et al., 2022b), where product information is a factor of personal belief (Sabharwal & Bhatt, 2021).

Recent literature established that digital signages have surged hypermarket sales (Roggeveen et al., 2016), reduced the perceived waiting time, and developed favourable waiting experiences (Garaus & Wagner, 2019). Further, Digital signages showcased consumption benefits that increase the likelihood of buying the product (van de Sanden et al., 2020). Different in-store technologies are emerging and becoming part of the customer journey (Grewal et al., 2020; Sharma et al., 2022b), making it difficult for the retailer to choose the right technology that exceeds the individuals' expectations. It becomes imperative for the retailer to know the adoption of digital signages as it is the most frequently used technology in retail (Stieninger et al., 2021).

Most of the prior studies on digital signages were field experiments (Ravnik & Solina, 2013) ; (Otterbring et al., 2014) ; (Dennis et al., 2014) ; (Roggeveen et al., 2016) ; (Garaus & Wagner, 2019); (van de Sanden et al., 2020) and qualitative (Newman et al., 2010; (Dennis et al., 2012). Only a few studies on digital signages captured the behavioural effects in retail stores (Burke, 2009), approach behavior in malls (Dennis et al., 2010), and purchase behavior patterns (Kim et al., 2020). There is no study on the acceptance of digital signage technology for aesthetic appeal, incomplete information, effort expectancy, habit, performance expectancy, and social influence. Based on this research gap, further research is required to investigate how willing individuals accept digital signages for fashion apparel retail stores. The current study extends the existing literature on digital

signages in fashion retail stores. Further, this research adapts constructs of the UTAUT 2 model, a well-established model in technology acceptance.

This study intended to understand the factors influencing the behavioural intentions to adopt digital signages for fashion apparel retail stores in Delhi/NCR locations. The first objective of this study was to ascertain whether aesthetic appeal and designed information impact behavioural intentions. The second objective was to determine how four constructs of UTAUT 2 effort expectancy, habit, performance expectancy, and social influence affect behavioural intentions for digital signages. This study does not include hedonic motivation, facilitating conditions, and price value. Hedonic motivation explains an individual's pleasure and fun elements for digital signages. Facilitating conditions acknowledge using additional support and resources to use a specific technology when an individual encounters it. But, when individuals visit a fashion retail store, they do not require any extra system to use digital signage. Price value relates to the individual's monetary cost, but individuals do not incur additional fees to access digital signages in fashion apparel stores.

In other words, retailers provide the facility of digital signages at various locations in the retail store to engage the individuals. Still, this study includes aesthetic appeal, which describes fascination, creative and impressive aspects of product-related information displayed more relevant in the context of digital signages in fashion apparel stores. It also includes construct designed Information (Hsu & Mo, 2009); when the design conveys an unclear meaning, individuals disagree with the brand's visual communication. The message is most likely to fail to get the brand's essence (Blijlevens et al., 2009). It is imperative to present accurate insights to the individuals (Simon, 1969) . The designed information as envisaged by the retailers should impress the individuals. This study contributes to the existing literature on UTAUT2, aesthetic appeal, and designed information. Further, it enhances the literature of digital signages.

The entire study is organized into six sections; section 2 throws light on the literature review, section 3 as hypothesis development, section 4

deals with methodology, section 5 describes the data analysis, and section 6 proceeds with discussion. Finally, the last sections wrap up with conclusions

2. LITERATURE REVIEW

2.1 Digital signages

The researchers have used various terms for digital communication; namely, plasma screens (Newman et al., 2006), digital signage (Dennis et al., 2012), and digital displays used interchangeably with screens and signages (Roggeveen et al., 2016). Digital signage's location, audio, and video content influenced shoppers in a cross-national qualitative study in the USA, Australia, and the UK (Newman et al., 2010). A field study in a fashion apparel store conducted in Slovenia and evaluation confirmed that individuals were attracted to dynamic content 1.5 times more than static content (Ravnik & Solina, 2013). Similarly (Garaus et al., 2017), the affective content of digital signages influenced impulse purchases and store loyalty mediated by positive emotions. This study was conducted in a supermarket in the fruits category.

Further, a study in South Korea identified entertainment, informativeness, involvement, and targeting as four antecedents that influenced consumer attitude and perception of advertising value for digital signages (Lee & Cho, 2019). Researchers emphasized that the absence of digital signages made the waiting area monotonous and frustrating. In addition, digital signages enhanced affective queuing time evaluation and increased overall store satisfaction (Garaus & Wagner, 2019). On the other hand, researchers found that participants overlooked digital signages; but participants considered that digital signages contribute to building a positive mall image (Willems et al., 2017). The creative development of the content to be displayed on digital signages requires studying how groups, organizational structures, and individuals respond (West et al., 2019). A study verified that narrowcasting of message type - a threat to freedom leads to lower digital advertisement attitude and lower engagement of individuals but large psychological reactance. A. Sharma, Pathak, et al., (2022c) Identified five factors of digital advertisement: informativeness, message relevance, entertainment, credibility, and irritation. Brands should carefully choose the

content for display on digital signages (Shoenberger et al., 2021). A study confirmed the positive influence of brand experience on brand attachment (Arya et al., 2019; Poonia et al., 2021; Habeeb et al., 2021), indicating that brand experience's significant effect on digital signage leads to brand attachment (emotional response). In addition, ethnicity influenced the effectiveness and perception of the showcased videos of the digital advertisement (Terlutter et al., 2021). A recent qualitative study revealed that individuals consider a mall a modern place in the presence of digital signages (Roux & Maree, 2021).

2.2 Theory building

Technology acceptance is the psychological state in which an individual voluntarily uses a particular technology. The extant literature showcased that different theories and models have developed. The widely accepted technology adoption models were the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) and Extended UTAUT 2 (Venkatesh et al., 2012), have relatively explained a large percentage of variance in Technology usage behavior. The literature suggests that various models have been used to describe the use behavior of digital signages (Garaus et al., 2017; Lee & Cho, 2019), but researchers have overlooked aesthetic appeal and designed information and also UTAUT 2 model for digital signages.

2.3 Behavioural Intentions

Behavioural intention is the likelihood of an individual to perform particular behavior to use a specific technology in the future, and the basis of the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975) and later, developed the theory of planned behavior (TPB) (Ajzen, 1991). It is a dependent variable. The extant literature signifies behavioural intentions as a predicted variable for mobile internet (Alwahaishi & Snášel, 2013), online shopping (Celik, 2016), mobile-based IT solutions for TB treatment monitoring (Seethamraju et al., 2018), online travel reviews (Bakshi et al., 2019), Airbnb app (Nathan et al., 2020).

2.4 Aesthetic Appeal

Wang et al., (2011) describe aesthetic appeal as something which someone regards as creative and fascinating. Aesthetic appeal is one of the initial things that associate a product with an individual (Bloch et al., 2002).

The aesthetic appeal has a merchandise evaluative component (Rozin & Hormes, 2011), that leads to positive emotions (Pol, 2013). Certainly, aesthetic appeal contributes to sales (Auger, 2005), and profits (Candi & Saemundsson, 2011). The respondents in a study recognized the unfamiliar product as pleasing when displayed in an aesthetically appealing manner (Schnurr et al., 2017). Thommes & Hubner (2018) explained that the aesthetic appeal of visual stimuli has three features: (a) context (What Information is displayed like image, title, or text?), (b) content (What is illustrated?), and (c) composition (How is the arrangement of the photograph?). Context relates to the aesthetic appeal of the title and other textual information displayed on the digital signages. The content is aesthetic appeal when similar photographs are compared on digital signages. The compositional features of aesthetic appeal are associated with elements and principles of design like forms, lines, golden ratio, symmetry, colour, balance, etc. Type of image also plays a very crucial role in agreement among subjects. Individual aesthetic appeal preferences may differ for visuals. What one finds aesthetically appealing, others may not see it appealing (Thömmes & Hübner, 2020).

2.5 Designed Information

Designed information (incomplete) is when relevant information is unknown to the subject (Black et al., 2009). Incomplete information is a two-dimensional construct, designed information, and missing Information (Hsu & Mo, 2009). Under ideal conditions, the disseminated information should be complete (Corman, 2020). However, the published information is incomplete (Jevinger & Persson, 2020). In addition, incomplete information increases the uncertainty of choosing the right product (Kivetz & Simonson, 2000). On the other hand, designed information is a deliberately limited stimulus. The retailer's conscious effort is to communicate the brand philosophy, showcasing a few selected merchandise. However, (Chuang et al., 2012) demonstrated that individuals probably prefer the middle path when decision-making in the presence of incomplete information and infer the missing attributes of the merchandise. In addition, the information displayed on digital screens may appear fragmented due to restricted space.

2.6 Effort Expectancy

In this study, effort expectancy is an individual's effort to look up to use the technology when the content is helpful, and struggle is minimal (Kang et al., 2015; Venkatesh et al., 2003). For digital signages in fashion apparel stores, effort expectancy (Luceri et al., 2022) is the new technology that an individual believes is easy to learn and effort-free use. The three constructs modelled the foundation of effort expectancy, namely perceived ease of use (technology acceptance model/ extended technology acceptance model 2), ease of use (diffusion of innovation theory), and complexity (the model of PC utilization) (Cimperman et al., 2016; Venkatesh et al., 2003).

2.7 Habit

Venkatesh, et al., (2012) explain habit as displaying some specific involuntary behavior because of an individual's familiarity with the subject. Habit is the automatic use of technology that will come naturally to someone. Habit is a behavioural predisposition to use digital screens. Individuals are exposed to different kinds of screens like mobiles, laptops, and television, and they spend around ten to thirteen hours a day on screens (Nielson, 2020). The prior experience with the screens will develop different viewpoints. If the views are positive, it will make people habitual users of digital screens and induce behavioural intentions. Through the study on smartphones, the dynamic nature of the content on screens causes habitual behavior (Oulasvirta et al., 2012).

2.8 Performance Expectancy

Performance expectancy explains how individuals believe in utilizing digital screens to choose the appropriate apparel. PE helps the users accomplish a particular task. Individuals who visit the apparel store encounter the technology and embrace it if it improves the chances of selecting the righteous clothes. (Venkatesh et al., 2003) considered performance expectancy as the most potent indicator of behavioral intentions. The five constructs, namely, relative advantage (innovation diffusion theory), extrinsic motivation (motivation model), outcome expectations (the social cognitive theory), perceived usefulness (technology

acceptance model), and job fit (the model of PC utilization), initially sourced for performance expectancy. Individuals measure the utility associated with digital screens. The derived benefits are time-saving, convenience, and stress-free shopping. Suppose digital signages prove profitable to the individuals on a shopping trip to the apparel store. In that case, it may induce behavioral intentions to purchase.

2.9 Social Influence

Social influence refers to an individual's perception of valuable people in their life who would approve of adopting the digital screens in apparel stores. The eminent people who can influence an individual are friends, family, influencers, celebrities, relatives, experts, and public figures. When these crucial people approve digital signages, it persuades them to use them. Thus, the initial emergence represents the construct from social factors (the model of PC utilization, image (diffusion of innovation theory), and subjective norms (Venkatesh et al., 2003).

3. HYPOTHESIS DEVELOPMENT

Many past studies have explored the relationship between UTAUT 2 constructs (effort expectancy, habit, performance expectancy, and social influence) and behavioural intentions (Alwahaishi & Snášel, 2013; Celik, 2016; Tarhini et al., 2017 Baptista & Oliveira, 2017). Similarly, prior studies investigated the relation of aesthetic appeal and designed information with behavioral intentions (Orth & Malkewitz, 2012; F. Wu et al., 2017; Chuang et al., 2012).

The aesthetic appeal has a significant effect on the behavioural intention for smartphones (Toufani et al., 2017), the travel industry (Gallarza et al., 2016), retail apparel stores (Sullivan et al., 2012), mobile ring tones (Turel et al., 2010). The aesthetic appeal of the retail store atmosphere significantly influences product attractiveness and purchase intentions (Orth & Crouch, 2014); (Holmqvist & Lunardo, 2015). There is substantial evidence that digital signages evoke aesthetically appealing sensory, affective behavior (Dennis et al., 2014). Conversely, researchers argued that product aesthetic appeal does not necessarily lead to positive relationships with behavioural intentions to use (F. Wu et al., 2017). Similarly, the aesthetic appeal of a job advertisement

was reported to have an insignificant relation to behavioural intentions. It will be interesting to study the aesthetic appeal of digital signages in the context mentioned above (Ganesan & George, 2019). Thus, the current study proposes:

H1: Aesthetic appeal positively influences behavioural intentions towards digital signages in fashion apparel stores

Brand communication is an integral part of a retail store which impacts brand equity through brand attachment (Arya et al., 2021). Retail stores communicate the shopping environment through images (McKinney, 2004), graphics, and texts (Koo & Ju, 2010). Brand textual information holds equal importance (M. Kim et al., 2021), and SMS advertising (A. Sharma, Dwivedi, et al., 2021) influences behavioural intentions. The deliberate visual design in the limited space is the designed information that generates positive emotions and increases the chances of behavioural intentions to use (Koo & Ju, 2010) displayed on the digital signages. Similar results established the significant effect of designed information on behavioural intentions (Essawy, 2019; Loureiro & Roschk, 2014). Thus, we propose the following hypothesis:

H2: Designed Information positively influences behavioural intentions toward digital signage in fashion apparel stores

Effort expectancy has shown significant results for online shopping (Celik, 2016), ICT (Alwahaishi & Snášel, 2013), plastic money (Makanyeza & Mutambayashata, 2018), digital banking (Nguyen et al., 2020), Airbnb app (Nathan et al., 2020). A study evaluated that effort expectancy was the highest predictor of behavioural intentions (Soomro, 2019). However, Chen & Chancellor (2020) established effort expectancy as an insignificant relation for leisure use of bicycle shared program in Taipei. Hence, investigate the following hypothesis:

H3: Effort expectancy positively influences behavioural intentions towards digital signages in fashion apparel stores

Digital signages are regularly changing, and so are the habits of the individuals. Habit

positively impacts behavioural intentions using a bicycle shared program (Chen & Chancellor, 2020), and learning (Tarhini et al., 2017). The findings of a study observed the positive effect of habit on behavioural intentions moderated by age and gender conducted on mobile banking services utilizing gamification (Baptista & Oliveira, 2017). Similar findings were found for habit positive influence on behavioural intentions to adopt plastic money in Zimbabwe (Makanyeza & Mutambayashata, 2018). A study on mobile app-based shopping evaluated habit as the highest predictor of behavioural intentions (Tak & Panwar, 2017). Hence, we are proposing the following hypothesis:

H4: Habit positively influences behavioural intentions towards digital signages in fashion apparel stores

A study in Saudi Arabia confirmed performance expectancy's positive effect on behavioral intentions for acceptance of ICT (Alwahaishi & Snašel, 2013). Similarly, PE has shown a positive impact on behavioral intentions for e-government (Sharma S.K, 2015), online shopping (Celik, 2016), 3D printing (Holzmann et al., 2020), and digital banking (Nguyen et al., 2020). A recent study based on online shopping depicted that performance expectancy was the highest predictor of behavioural intentions (Erjavec & Manfreda, 2022). However, a study conducted in Brazil found performance expectancy insignificant relationship with behavioral intentions in a survey of Kaohsiung citizens for I pass (M.-Y. Wu et al., 2012), and similar result was reported for using e-books (Martins et al., 2018). This requires further investigation. Hence, proposes the following hypothesis:

H5: Performance expectancy positively influences behavioral intentions towards digital signages in fashion apparel stores.

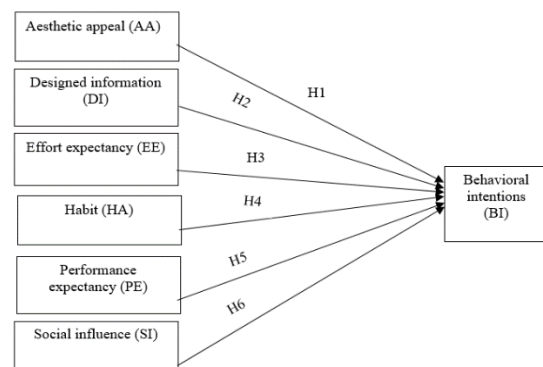
Prior studies established that social influence positively influences behavioral intentions for IFRS material education (Alzeban, 2016) and mobile-based IT solutions (Seethamraju et al., 2018). However, published the relationship between social influence and behavioral intentions (Venkatesh et al., 2003) is insignificant, although it supported a

significant relationship between social influence, and behavioral intentions for mobile internet use (Venkatesh et al., 2012). Similarly, a study in Brazil found social influence insignificant relationship with behavioral intentions for using e-books (Martins et al., 2018). A recent study evaluated social influence as the highest indicator of behavioural intentions (Rehman et al., 2022). Inconsistent results motivate the researchers to propose the following hypothesis:

H6: Social influence positively influences behavioural intentions towards digital signages in fashion apparel stores

Many recent studies have shown the significant relationship between effort expectancy, habit, performance expectancy, social influence, aesthetic appeal, and designed information with behavioural intentions (Toufani et al., 2017; Chang et al., 2018; Rehman et al., 2022; Jacob & Pattusamy, 2020; Tak & Panwar, 2017; Holzmann et al., 2020). The study proposed the research model (refer to figure 1).

Figure 1: Proposed research model



4. METHODOLOGY

4.1 Data collection

This study employed the snowball technique to collect responses. Researchers distributed 500 Self-administered questionnaires, of which the respondents returned 458 questionnaires. Researchers eliminated unresponsive and incomplete questionnaires, and for analysis (Hanaysha et al., 2021), researchers considered 418 wholly filled questionnaires.

This study employed the stimuli of digital signages installed in fashion apparel retail stores. Most retailers display digital signages on storefronts, inside windows, and behind

cash counters. Visual merchandisers identified those prominent in-store locations of digital signages, which anyone can quickly notice from outside the store. Thus, stimuli included four photos of fashion apparel retail stores using digital signages (1) the presence of sizeable digital signage in the window with two dummies, (2) a photo with a big screen behind the cash counter, (3) a picture near the entrance, and (4) a photo displaying digital signage on a pillar inside a store but visible from outside the fashion apparel store.

The research instrument design comprises two sections where; the first section focuses on the demographics of the respondents, and the second section describes the statements to study the digital screens' usage behavior adopted from prior studies. In the beginning, a filter question was asked, "Have you ever had a shopping experience using digital screens in the apparel stores?" and if the answer was "Yes" for this question, respondents continued answering the questionnaire. A 5-point Likert scale measured each item, denoting 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree. Researchers stated that adopting a 5-point Likert scale makes respondents feel motivated and least frustrated to provide the information right in the questionnaire.

The four demographic characteristics studied were gender, qualification, age, and occupation for this research. SPSS 27 helped evaluate the frequency of demographic items (refer to Table 1).

Table 1: Demographic analysis

Item	Responses	Count (N)	Percentage
Gender	Male	180	43
	Female	238	57
Qualification	School	116	28
	Graduate	199	48
	Post Graduate & Above	103	25
Age (years)	18-26	323	77
	27-33	50	12
	34-40	23	6
	41-47	16	4
	47 and above	6	1
Occupation	Student	270	65
	Private Service	105	25
	Govt Service	14	3
	Business	12	3
	Self employed	16	4

Source: Author's calculation

4.2 Descriptive statistics

Hair et al., (2022) suggested that the data is considered to be skewed- kurtosis if the values are greater than +1 or less than -1. The excess of kurtosis-skewness within ± 1 is considered non-normally distributed. The output depicts that most of the constructs of the sample dataset were found to be non-normally distributed. Specifically, the majority of constructs showed the skewness value from -0.014 to -0.884, and kurtosis ranged from -0.137 to -0.096. The web power tool was used to verify the non-normal dataset. Mardia's multivariate kurtosis ($\beta = 72.696$, $p < 0.01$) and skewness ($\beta = 6.224$, $p < 0.01$) indicated non-normality of data. PLS-SEM can easily analyse the non-normal dataset (J. F. Hair et al., 2019). Non-normality is the reason to use PLS-SEM for analysis.

5. DATA ANALYSIS

The data was analysed using the PLS-SEM. Researchers examined the data in two phases. The first step evaluates the measurement model, and the second step assesses the structural model (Sharma et al. 2021, 2022a, 2022b; Rashid et al 2022). The measurement model considered item loading values, Cronbach's alpha, composite reliability, ρ_A , AVE, and HTMT. The structural model evaluated the VIF, explanatory power of Q^2 , R^2 and the path coefficient significance.

5.1 Reliability and validity

Internal consistency is an essential measure of reliability. Researchers consider reliability when the items of the measuring instrument produce homogenous and stable results. Cronbach's alpha (α) assesses the internal consistency. The Cronbach's alpha value above 0.7 is considered good reliability, but a value above 0.95 is unacceptable (George & Mallery, 2019). Table 2 shows that Cronbach's alpha for all the constructs is above 0.700 and below 0.95 meets the recommended criteria. The mean value varies between 2.920 for habit and 3.656 for effort expectancy. The standard deviation extends from 1.020 for the habit to 1.093 for designed information. Composite reliability is the aggregate of actual score variance relative to the overall variance score. The score of composite reliability will always be higher than Cronbach's alpha score. The reliability coefficient ρ_A (ρ_A) determines the more dependable value as it overcomes the

Table 2 : Summary of the measurement model

Construct	Items	Factor Loading	Mean	Standard deviation	Cronbach's Alpha	Composite Reliability	Reliability coefficient rho_A	AVE
Aesthetic Appeal (AA)	AA1	0.881	3.606	1.054	0.851	0.910	0.852	0.771
	AA2	0.891						
	AA3	0.862						
Behavioral Intentions (BI)	BI4	0.896	3.364	1.083	0.884	0.928	0.884	0.811
	BI5	0.909						
	BI6	0.897						
Designed Information (DI)	DI7	0.885	3.458	1.093	0.907	0.935	0.907	0.782
	DI8	0.882						
	DI9	0.896						
	DI10	0.875						
Effort Expectancy (EE)	EE11	0.896	3.656	1.032	0.906	0.934	0.910	0.781
	EE12	0.850						
	EE13	0.888						
	EE14	0.900						
Habit (HA)	HA15	0.840	2.920	1.020	0.875	0.914	0.877	0.727
	HA16	0.865						
	HA17	0.869						
	HA18	0.836						
Performance Expectancy (PE)	PE19	0.872	3.312	1.074	0.900	0.930	0.901	0.769
	PE20	0.894						
	PE21	0.873						
	PE22	0.869						
Social Influence (SI)	SI23	0.897	2.921	1.041	0.883	0.927	0.883	0.81
	SI24	0.899						
	SI25	0.903						

Source: Author's calculation

drawbacks of Cronbach's alpha and composite reliability (Dijkstra & Henseler, 2015). The composite reliability and reliability coefficient (ρ_A) values for all the variables are above the threshold value of 0.7. Convergent validity measures the average variance extracted (AVE) for the items that explain the construct. It is calculated by squaring the indicators' outer loadings and computing the mean. The average variance extracted (AVE) for all the constructs is within the acceptable range (≥ 0.7) (table 2). Multi-collinearity verified through VIF in PLS-SEM. All the values below 3 indicate no threat of multi-collinearity. The VIF values ranged from 2.326 for performance expectancy to 1.594 for aesthetic appeal.

5.2 Discriminant validity

Discriminant validity explains each construct's distinctive contribution and determines the low correlation between two variables. The metric used to evaluate the discriminant validity are Fornell-Lacker criteria and heterotrait-monotrait (HTMT). The Fornell-Lacker measures show the correlation between two constructs, and diagonal values are the square root of AVE. The oblique value should be the highest compared to other constructs' corresponding correlation values. HTMT ratio is considered a more accurate measure of discriminant validity (Ab Hamid et al., 2017). All the HTMT ratio values in Table 3 are below the threshold value of 0.85, indicating discriminant validity (Kline, 2015).

Table 3 : Discriminant validity

Fornell-Larcker Criteria							
Constructs	AA	BI	DI	EE	HA	PE	SI
AA	0.878						
BI	0.605	0.901					
DI	0.383	0.691	0.885				
EE	0.470	0.596	0.56	0.884			
HA	0.416	0.609	0.532	0.447	0.852		
PE	0.576	0.697	0.548	0.586	0.504	0.877	
SI	0.357	0.533	0.435	0.406	0.577	0.571	0.900
Heterotrait-Monotrait Ratio (HTMT)							
	AA	BI	DI	EE	HA	PE	SI
AA							
BI	0.697						
DI	0.435	0.772					
EE	0.535	0.664	0.615				
HA	0.480	0.691	0.595	0.497			
PE	0.658	0.78	0.606	0.647	0.566		
SI	0.411	0.603	0.486	0.452	0.655	0.640	

Source: Author's calculation

5.3 Structural model

After the measurement model's satisfactory analysis, the structural model assesses the coefficient of determination (R^2), cross-validated redundancy measure (Q^2), path coefficients, and statistical significance. The proposed research model examines R^2 for endogenous construct. The R^2 value guiding principle is 0.25 = weak, 0.50 = moderate, 0.75 = substantial (Henseler, et al., 2009; Chin, 2010, Hair, et al., 2011; Hair, et al., 2014). The R^2 for the construct BI = 0.695 interprets that the proposed model's explanatory power is moderate. The cross-validated redundancy measure (Q^2) evaluates the predictive accuracy using blindfolding for the endogenous variable. The Q^2 values follow 0.50 = large, 0.25 = medium, 0 = small predictive relevance. The Q^2 for BI = 0.558 depicts the enormous explanatory power of the model.

5.4 Hypothesis testing

The hypothesis evaluation employs bootstrapping technique at 5000 samples to achieve the sample mean, standard deviation, t statistics, and p-value at a 95% confidence interval. The beta coefficient ranges from 0.056 (SI → BI) to 0.326 (DI → BI). The sample mean stretches between 0.056 (SI → BI) and 0.327 (DI → BI), and the standard deviation values extend between 0.037 (HA → BI) and 0.049 (DI → BI). The result confirmed that aesthetic

appeal (AA) had a positive effect on behavioural intentions (BI) ($\beta = 0.224$, $p < 0.05$) and thus supports H1. Similarly, the results depict that the construct designed Information (DI) shows the most substantial relation ($\beta = 0.326$, $p < 0.05$) with BI and accepts the hypothesis (H2). In addition, the results show that habit (HA) is another factor that significantly influences behavioural intentions (BI) ($\beta = 0.157$, $p < 0.05$) and supports H4. The result is consistent with the prior research (Nguyen et al., 2020). Lastly, performance expectancy (PE) positively influences behavioural intentions (BI) for digital signages ($\beta = 0.231$, $p < 0.05$) and confirms H5. The result is consistent with the prior research (Tarhini et al., 2017); (Seethamraju et al., 2018); (Alkhaldi, 2020). Furthermore, performance expectancy (PE) and aesthetic appeal (AA) show a similar impact in the adoption of digital signages. The two hypotheses effort expectancy (EE), and social influence (SI) to behavioural intentions (BI), did not support the model. Thus, H3 and H6 do not support the hypothesis (Table 4).

5.5 Graphical representation of the structural model

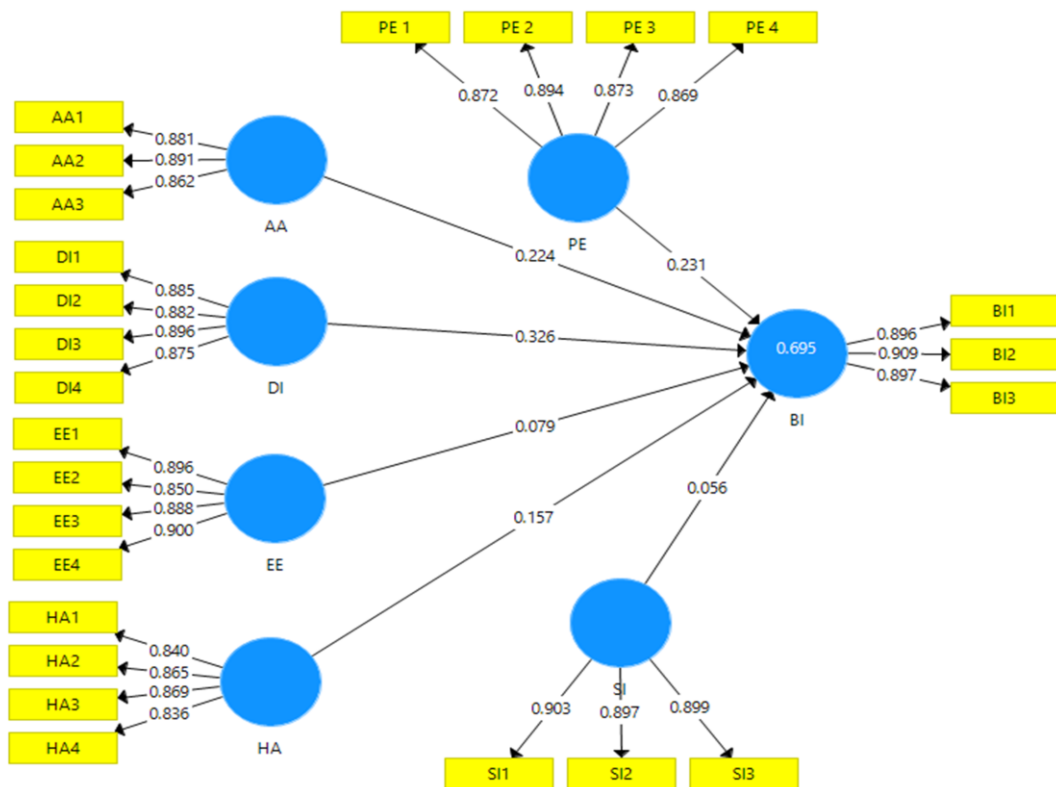
The PLS path model with beta coefficients and outer loadings is shown in Figure 2. The predictive strength of the proposed model BI towards the digital screen is 69.5 percent.

Table 4 : Structural model estimates

Relationship	β coefficient	Sample Mean (M)	Standard Deviation (STDEV)	Percentile 95% confidence interval (bias corrector)	t Statistics	p values	Results
H1 : AA \rightarrow BI	0.224	0.222	0.041	[0.142 ; 0.302]	5.519	0.000	Supported
H2 : DI \rightarrow BI	0.326	0.327	0.049	[0.231 ; 0.421]	6.623	0.000	Supported
H3 : EE \rightarrow BI	0.079	0.080	0.043	[-0.004 ; 0.164]	1.849	0.064	Not Supported
H4 : HA \rightarrow BI	0.157	0.158	0.037	[0.082 ; 0.232]	4.211	0.000	Supported
H5 : PE \rightarrow BI	0.231	0.231	0.048	[0.137 ; 0.327]	4.826	0.000	Supported
H6 : SI \rightarrow BI	0.056	0.056	0.041	[-0.025 ; 0.135]	1.370	0.171	Not Supported

Source: Author's calculation

Figure 2: PLS path model with coefficients



6. DISCUSSION

The main objective of this research was to investigate "how willing individuals to accept digital signages for fashion apparel retail stores". This objective was achieved with the help of PLS-SEM. The study analysed the direct effect of aesthetic appeal and designed information, effort expectancy, habit, performance expectancy, and social influence on behavioural intentions for fashion apparel stores. The results confirm that aesthetic appeal, designed information, habit, and

performance expectancy (H1-H2, H4-H5) are the key predictors of outcome behavioural intentions.

Designed information emerged as the most significant predictor of behavioural intentions, followed by performance expectancy for digital signages in a fashion apparel store. The result also indicated that designed information plays a crucial role in predicting the intentions to use digital signages in fashion apparel stores. These findings enlighten the

understanding of aesthetic appeal, designed information, habit, performance expectancy, and behavioural intentions. Thus, this study provides some key insights into the adoption of digital signages in fashion stores.

The positive relation between designed information and behavioural intentions suggests that if digital signage is installed at the storefront, it may be the deciding factor for an individual to enter the fashion apparel store. It may become the first touchpoint that individuals encounter before entering the fashion apparel store. It also indicates that in the absence of digital signages, the trip of the individuals to the fashion apparel store may get halted at the beginning, which means individuals may not enter the store. Individuals may prefer a store with digital signage more than a store without digital signage. It may lead to less footfall to a fashion retail store. In addition, installing digital signages in fashion stores may communicate the brand philosophy. Digital signages are more likely to be a differentiating for the retailer to entice the individuals consciously.

The study progresses the existing literature and establishes the two new positive relationships of aesthetic appeal and design information to behavioural intentions for digital signages. It establishes that aesthetic appeal and designed information lead to behavioural intentions. Further, it can be inferred that the greater the aesthetic appeal and designed information, the greater the behavioural intentions to adopt digital signages in fashion apparel stores.

Performance expectancy is the second strongest predictor, followed by habit for behavioural intentions to use digital signages in fashion apparel stores. A significant relation between performance expectancy, habit, and behavioural intentions has been established in previous studies (Chen & Chancellor, 2020; Nathan et al., 2020; Tomić et al., 2022; Jain et al., 2021), and found to be consistent with the prior research.

Further, the effort expectancy and social influence emerged as insignificant for behavioural intentions. Although, similar results were established in prior research (Bakshi et al., 2019; Jacob & Pattusamy, 2020; Schapsis et al., 2021).

6.1 Theoretical implications

In recent times, digital signages have attracted much attention from researchers (Garaus & Wagner, 2019; Grewal et al., 2020; Sharma et al., 2022b; Shoenberger et al., 2021; Stieninger et al., 2021; van de Sanden et al., 2020). However, extant literature is not available on behavioural studies focusing on fashion retailers for digital signages. Thus, this study enhances the extant literature on the adoption of digital signages. Further, this research extends the UTAUT 2 to adopt new and innovative technologies. The results established by this study recognize the new conceptual understanding of effort expectancy, habit, performance expectancy, and social influence. The conceptual model analysis provides insight regarding the adoption of digital signages in fashion apparel brick-and-mortar stores. In addition, the conceptual model results predict the significant factors that can facilitate the task of formulating the strategy. Moreover, the research confirms the presence of two other prominent factors, aesthetic appeal, and designed information, that influence the behavioural intentions for digital signages in fashion apparel retail stores.

This research investigates an empirical model based on UTAUT 2 with two new constructs: aesthetic appeal and designed information.

6.2 Practical implications

This study confirms that four factors - aesthetic appeal, designed information, habit, and performance expectancy significantly influence the behavioural intentions to use digital screens in apparel stores.

This study provides many practical implications to retailers, strategic marketers, and visual merchandisers. Designed information is the primary concern users consider when searching for fashion clothes on the digital signages in apparel stores. The designed information is the array of cues beyond apparel colour, quality, style, and promotions that individuals associate with the brand. That is the brand philosophy cues using digital signages. The brand philosophy is an offshoot of the mission statement of the brand. Individuals know that it is designed information which means that the visual merchandiser consciously displays only a few fashion clothes. It indicates that users are

knowledgeable and keenly observe the information displayed on digital signages. Users look for relevant information on digital signages while searching in fashion apparel stores. Moreover, digital signages provide unlimited space and an opportunity for visual merchandisers to create a brand identity consciously.

The result of performance expectancy signifies that digital signage users find improvement in their performance of choosing the merchandise in apparel stores. It indicates that users' performance improves and helps adopt digital signages in fashion stores. In other words, performance expectancy enhances efficiency, provides effectiveness, and facilitates choosing the right apparel. Retailers should focus on precise communication of product attributes. Visual merchandisers should change communication frequently, covering details of more fashion apparel like cross-selling, up-selling, and educating individuals about fashion styling can increase basket sizes and conversion rates.

The primary implication of aesthetic appeal is persuasion. The aesthetic appeal provides signals and reduces uncertainty for behavioural intentions to use digital signages. The aesthetic appeal of clothes relates to colour, design, texture, quality, novelty, and shape. The blown-up apparel videos displaying fabric textures and design will attract more individuals for product evaluation.

Habit (HA) is a significant predictor of behavioural intentions to use digital signages. It reveals that respondents are fallen into the habit of using digital screens in fashion apparel stores. Visual merchandisers should design the display strategy to differentiate the content on digital signages to make it more significant.

The findings of this study conclude that it will help the retailers, decision-makers, visual merchandisers, marketers, and store planners. Digital signages may emphasize appropriate designed information. Display of online reviews and influencer endorsements positively influences purchase intentions (Yaacob & Gan, 2021) on digital signages may give the individuals more confidence while navigating the retail store. It may motivate the

individual and may facilitate the process of selecting the right merchandise at apparel stores.

6.3 Limitations and future research direction

The limitations of this study are as follows: first, this study employs a convenient sampling method to collect the respondents' data. It may not be easy to generalize the results. Second, the investigation is cross-sectional as the data is collected only once. Third, this study has no moderation effect on age and gender. Fourth, this study gathers only the viewpoint of Indians and may give different results in other cultures. Future research may employ longitudinal studies.

Further, studies may use the quota sampling method to collect an equal proportion of demographic data to analyse the moderation effect. It may provide more detailed information to help retailers plan digital signage promotional strategies better. This research focuses on digital screens in a generic sense. However, future research may take place on different sizes of the signages.

7. CONCLUSION

This research emphasizes the influence of aesthetic appeal, designed information, effort expectancy, performance expectancy, habit, and social influence on behavioural intentions to use digital signages in fashion apparel stores. Further, this research shows the positive effect of aesthetic appeal, designed information, performance expectancy, and habit on behavioural intentions. In addition, this study extends the existing literature on UTAUT 2 for digital signages in fashion apparel stores. Using digital signages, creativity in brand communication account for a driving force (Yagnik et al., 2020). The results signify that the individuals identified digital signage as an effective marketing promotional technique, and it should be in the toolkit of a marketer of fashion apparel retail stores. Although the data collection took place from Delhi NCR, participants are from all parts of India. The results can be generalized to India. The study focuses on fashion apparel retail stores, but it can also be applied to other sectors like FMCG, banking, e-payment, etc.

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USER'S INVOLVEMENT IN THE INFORMATION FLOW PARADIGM ON SOCIAL NETWORKING SITES DURING COVID-19: A STRUCTURAL EQUATION MODELLING APPROACH

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ABSTRACT

This study tries to determine if social media argument quality, social media source credibility and perceived usefulness can predict information adoption by the user shared through social media platforms. Data was collected from 376 social media users through online surveys that helped gauge user behavior. The results of the study revealed that perceived usefulness is not a predictor of information adoption. The results of the study revealed that perceived usefulness is not a predictor of information adoption but there is a significant relationship between information adoption and participatory behavior especially when the information is shared through social media networks. The study would help its stakeholders understand the predictors of information adoption. It reveals the importance of credibility of the source. Moreover, the central point at issue is still argument quality. Acceptance of the information would lead to the participatory behavior by the user. In this study information exchange and user-generated content have both benefited from social networking.

keywords: Social Networking Sites, Information Adoption, COVID-19, Source Credibility, Argument Quality

Introduction

Amidst the time of this major pandemic COVID-19, there has been growth in the social media usage platforms for sharing messages ranging from personal conversations to information about the pandemic (Janavi et al.; 2021). This has led to the sharing of potential remedies for affected people, goods and services (Lee et al., 2006; Arya et al., 2018) speculations about government policies, news, rumours (Steensen, & Eide, 2019) etc., in the form of videos, text messages, audios, images or even web links. Social networking sites

have increased in popularity to become one of the most popular websites on the internet (Sharma, 2021; Sharma et al., 2022a, 2022b). Facebook was the first social media platform to cross one billion registered accounts, and it now has over 2.85 billion monthly active users (Yang, et al, 2016; Global Web Index 2016). There has been 50 per cent increase in the usage rate of social media sites like Facebook, Instagram, and WhatsApp all over the world and users spend about two hours every day on the site, according to reports (Forbes, 2020). In order to alleviate user fear, several sites

even created restrictions to curb the spreading of COVID-19 rumours. Many studies have used different theories for technology adoption such as Technology Acceptance Model and Expectation Confirmation Model to predict the behaviour of the user (Bhattacharjee, A., 2001; Thong, J. Y et al., 2006; Liao, Chuttur, M. Y. ,2009). Even brands modifying their marketing plan and using SNSs as an advanced instrument for brand communication (Arya, V., Paul, J., & Sethi, D.,2021; Hanaysha et al., 2021; Rashid et al. 2022). Consumers' perceptions of SMS advertising have been demonstrated to have a considerable impact on their purchase intent, either directly or indirectly (Sharma et al., 2021). The emphasis now is on the adoption of information shared through social media by the user (Bruggeman et al., 2019). Interestingly, a user may get impacted by the information based on the quality of the argument, related issue, credibility of the source of message and the evaluative actions taken by the user itself to analyse the information (Petty and Cacioppo, 1986; Sundar et al., 2007; Jin, Yin, Zhou and Yu, 2021). These factors are important because the information available in the hands of user is so huge that evaluating the source and the quality of information has become a difficult task. The more quality oriented the information is, the more chances are there that the information will be adopted by the user (Xu and Chen, 2006; Zhang and Watts, 2008).

Users generally adopt the information if they consider it relevant and useful for the current scenario with credible source backing it. A credible source makes the information more trustworthy and reliant (Yoon, Pinkleton, & Ko, 2005; Sethi et al.,2021). Users especially youngsters are found to recheck the information for the evaluation purpose on various other social media platforms before adopting it (Kim, Sin, Yoo-Lee, 2014; Bruggeman et al., 2019) making evaluative action an important variable in understanding both perceived usefulness and information adoption. Furthermore, expectation conformation model (ECM) is used to understand the ultimate behavior of the user once the information is accepted (Liao, Palvia and Chen, 2009). This model ascertains the continuance behavior and helps in predicting the participatory action taken by the user (Tadesse, A. W et al., 2020).

The majority part of researches focused on the factors that drive consumers for information sharing, but very few studies are there to assess participatory behavior. With increasing frequency, people are using social media sites to obtain timely information about the world's grand challenges (Mohammed, A., & Ferraris, A.,2021). Little research has determined how people participate and how their involvement can be promoted on these sites. The study found that attitude, perceived behavioral control and subjective norm affect Twitter users' active participation. In current study the communicative and community components of social media are highlighted. The goal of the study is to determine what counts as involvement when online users establish connections rather than content. This study tries to determine if social media argument quality, social media source credibility and perceived usefulness can predict information adoption by the user shared through social media platforms, especially in current scenario where COVID-19 has created information explosion in the hands of users. Moreover, it is important to understand whether information adoption leads to any participatory behavior by the receiver of such information, which also forms the part of this research. This will help the stakeholders such as government, researchers, and practitioners to unearth if the information adopted has led to any action in terms of use of the information by the user such as sharing the information, recommending to peers and following the subject matter on social media sites.

Literature review

COVID -19 pandemic drastically impacted the whole world and play a imperative role in generating information, spreading awareness, broadcasting, government communication channel for providing important information related to the virus as this considered to be the fastest communication tool in a emergence of the COVID-19 pandemic (Namisango and Kang, 2019, Gupta P & Srivastava, 2021). Usefulness of the content available on social networking sites is determined by the preference of user's view of the site and also depends upon the perceived value and perceived quality What makes social media so strong is its ability to connect and exchange information with anyone or a huge group of people at the same time - i.e. through the use of different channels such as Twitter,

Facebook, Instagram and other social networks (Hussain, et al., 2017; Solomon, 2018; Goyal et al., 2021, Prashar, A. & Gupta P., 2020) for sharing information.

2.1 Information adoption and argument quality

Information Adoption Model explains how people acquire information and, as a result, modify their intents and actions while using computer-mediated communication platforms and further (Sussman et al., 2003; Cheung, Lee, & Rabjohn, 2008) explained information adoption as a process of engaging individual in using information from the Internet and social networks. In the information adoption paradigm, argument quality is regarded the primary influence, while source trustworthiness is considered a secondary factor (Sussman et al., 2003; Cheung, Lee, & Rabjohn, 2008; Pal et al., 2019). Prior research on information seeking has also emphasized and strongly supported the importance of information source credibility and quality (Rieh, 2002; Sundar et al., 2007; Zhu, et al., 2016). Internet users, according to (Madu and Madu, 2002), people read web pages in depth and but rather check the information they want. In this (Nah and Davis, 2002) add on that users expect to be able to get the information they need quickly and with minimal effort. Further, (Salehi-Esfahani et al., 2016) have found out that source credibility and argument quality are determinants of information usefulness. Lin, Wu and Tsai, 2005 refute the previous found relationship between information usefulness and information adoption and state the impact of task environment also affects the relation.

As a consequence, a social networking site that delivers higher quality information should be seen as more valuable, and the quality of the material should encourage continued engagement on the social networking site (Lin, 2007; Solomon, 2018; Lin and Lu, 2000). SNSs providing higher quality of information influence usefulness of the information (Makri and Schlegelmilch, 2017) and information quality should also be influenced SNSs's users for participation in trending flow of information (Sigerson and Cheng, 2018).

H₁: Argument quality has a positive impact on information adoption

2.2 Source credibility and information adoption

SNSs as discussed above is considered to be one of the fastest communication channel for creating and delivering information, thus the high quality that it need to possess is information quality (Hussain, et al, 2017; Solomon, 2018). This is because any incorrect and delusive information can mislead or create misunderstanding among readers. The correctness, completeness, and timeliness of information, as well as its relation to actual information and the reliability of the source presented, can all be used to assess its quality. (De Lone and McLean, 2003). Information provided by this sources is apparent to be true, accurate, and up-to-date t and even recommend others (Cheung et al., 2008; Shariff, Zhang, & Sanderson, 2017). Consumers clearly examine the trustworthiness and amount of bias of online content (Cheung, Luo, Sia, & Chen, 2009; Atika, Kusumawati & Iqbal, 2017). According to previous study, the likeability, and reliability of the source might influence those who take the follow and found it convincing and source credibility have direct relationship with information adoption, (Jiang & Zhang, 2021).

H₂ Source credibility has a positive impact on information adoption.

2.3 Perceived information usefulness and information adoption via social media

Past studies have already been focused on numerous factors where people's behavior and attitude is influenced by the Social Networking Sites (Arya et al., 2018; Jain et al., 2021). Various models, such as Technology Acceptance Model have been established for understanding and studying the factors of technology acceptance and usage. TAM was originally developed by Davis, 1989. To recognize the consumer behavior in more in-depth, later (Teo, Lim, and Lai ,1999) added two more variable in TAM named perceived playfulness or feeling and found a positive relationship between these factors with respect to internet usage. Ramprathap & Gokulnath, 2021 perceived ease of use, and perceived usefulness social media were found to have a positive and substantial relationship with students' learning performance. Further (Fishbein and Ajzen, 1975) individual behavior is a predictor of intentions, and intentions are jointly controlled by an

individual's attitude, according to these findings. The researchers also found that individuals' attitudes can be used to predict their intentions, and in addition to this (Hsu, & Lin, 2008, Islam et al., 2020) found that people's attitudes to blogging and social factors influence their intention to continue to use blog. Ease of use is one of the strongest predictor of usage of social networking sites. More people found SNSs easy to use, more likely they will adopt it (Heinrichs, Lim, & Lim, 2011). The usage of social networking sites and Web technologies for content production and sharing may boost social networking site user involvement and sharing (Lim, Lim, and Heinrichs, 2008; Cheung, et al, 2015; Kumar and Asawa, 2016; Singh and Sinha, 2020).

H₃ Perceived information usefulness has a positive impact on information adoption

2.4 Information Adoption and Theoretical Background

The adoption process is a step of information sharing that takes place on a world basis (Zhou, T. ,2021). Exact information is converted to internalized significance and knowledge in this phase of knowledge transmission (Nonaka, 1994). Process of information adoption and impact on individual's behavior given in theory of reasoned action (TRA) and the technology of adoption model (TAM), among others (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and also a Theoretical model of adoption (ELM) proposed by (Sussman and Siegal,2003; Arya et al., 2018). Information quality might be just as important in social networking as it has been for corporate websites, according to prior studies. This may be seen in the rise of blogs, which post facts and/or opinions on a wide range of subjects (Hsu and Lin, 2008). As social networking sites provide a large platform for exchanging information and sharing views, opinion on any content and subject matter. This how it contributes in continues social networking sites usage (Hsu and Lin, 2008; Al-Daihani and Alhaji, 2018, Arya et al., 2019).

Researchers have defined SNSs as internet based service where individual can easily create their profile, can easily able to share their views, thoughts, blogs with the person that are connected with these sites and also able to view and go across with their profile

(Boyd and Ellison,2008; Namisango and Kang, 2019, Arya et al., 2018). SNSs can, along these lines, be considered as powerful centres through which data streams. The extending development of SNSs has implied that they have become useful and more active platform for many individual and mostly for youngsters (Hampton et al, 2011; Lenhart, 2015; Lee, Kang & Namkung, 2021).

Previous studies found that majority social networking sites utilized by the teenagers and among all the sites Facebook is the widely used Social Networking sites (Cardon and Delaunay Teterel, 2006; Duggan et al, 2015, Sharma et al., 2022a), but with the numerous benefits of social networking sites it also considered to be dangerous (Ito et al., 2010) because of the privacy and authenticity of the information and information provider (Livingstone 2008). An access by SNSs to share information with friends and large group of people but there are dangers sharing it with unknown audience.

2.5 Information adoption and Participatory behavior of SNSs Users

As information suppliers, SNS play a significant role in enhancing the participation of the users in social and political discussion and trends on social media sites (Ali, et al, 2019; Saiphoo and Vahedi, 2019). Past studies shows that how influencing is social media sites are information provided over it, ongoing discussion on political and sensitive issues, debates on different issues can result in negative consequence in form of riots, strikes and misunderstanding (Shirazi, 2013). Besides, ongoing works bring up that SNSs could be utilized as immediate data sources expressly by youngster (Brandtzæg and Heim, 2009; Willemse et al, 2014; Tan et al., 2012). As a result, according to (Delli, Carpini and Keeter,1996), levels of current-events knowledge, and involvement will increase as a result of this enhanced understanding. An interactive information electronic media appears to be capable of bringing various groups or communities together to form a "electronic commonwealth (Scheufele, 2002).

SNSs users not only sharing and creating content (Thomas, Orme& Kerrigan,2020), they looking for information on it (Williamson and colleagues, 2012; Whiting and Williams 2013) and also rely on the information available on

it. They found it trustworthy, which is a big concern because the information trustworthiness of the information available on social networking is doubtful (Flanagin and Metzger, 2010; Biddix, 2011). Some researchers have examined SNSs precisely as information sources (Aillerie and McNicol, 2018; Brandtzæg and Heim, 2009, Gupta et al., 2020).

H₄ Information adoption significantly impacts participatory behavior of the user via social media.

3. Methodology

SNSs sites are considered as the fastest way of communicating any information (Sharma, 2021). With this facility it also comes as one of the dangerous source if wrong, unauthentic and fake information is spreading among people via SNSs. It can lead to riots, misunderstanding and also can mislead the reader. If we talk about current scenario in current situation of COVID 19 again so many fake news is being forwarded through these modes. Thus to measure the participatory behavior of the user in adopting and spreading information this study is conducted.

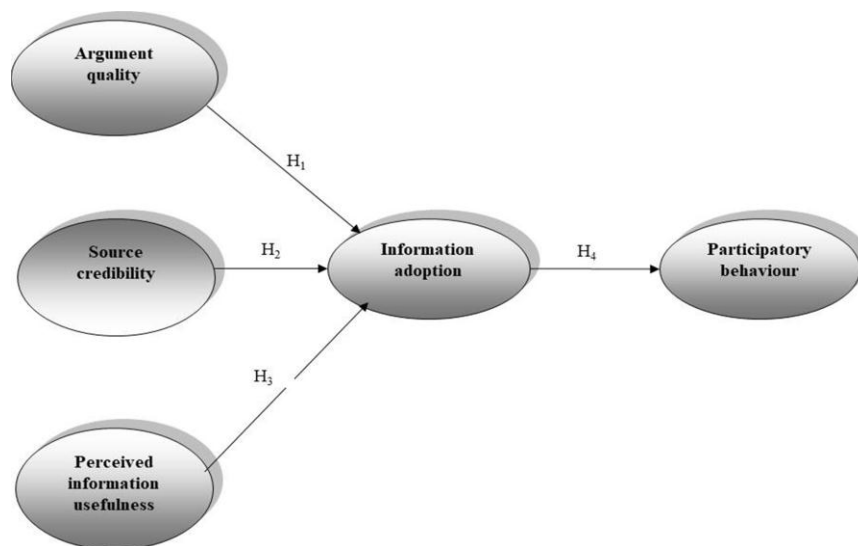
3.1 Instrument's validity and reliability

Validity and Reliability of the instrument were measured through KMO and Cronbach alpha. Cronbach's alpha >0.7, according to Nunnally (1978) is considered as acceptable. MO value between .5-.7 considered as average, between 0.7-.08 as good and. above 0.8 extremely good (Kaiser, 1974).

3.2. Instrument development

To collect data for this exploratory study, a questionnaire (quantitative treatment) is used. Questionnaires are an important tool for gathering information from a large population with in a small piece of time. This study's there are two sections to the questionnaire. First section includes a question related to demographic profile of respondents and general question related to usage of SNSs. On the other hand, in third section a five-point Likert-type scale ranging from strongly agree to strongly disagree was used to assess the factors related to participatory behavior of respondent impacted by information adopted from SNSs. Questionnaire was prepared on

Fig1: Conceptual Framework



This study is an attempt to answer the questions such as social networking site users find SNSs useful and do they find information provided on social networking sites authentic, reliable, do they check the source credibility of the information they find on social networking sites, if users adopt the information from SNSs do they forwarded it to others or how information adoption can impact the participatory behavior of the users.

basis of literature review and some statements were adapted from previous studies.

3.3 Items development

Items of the questionnaire were adapted from the previous studies but modification is done as per the need of the current study.

TABLE 1: Items adapted for study and its source

Construct	Source
Source credibility	Wixom and Todd,2005;Junjiao Zhang et al.,2017; Solomon, 2018
Argument quality	Junjiao, et al, 2017
Perceived information usefulness	Sussman and Siegal,2003;Junjiao et al,2017
Information adoption	Sussman and Siegal ,2003; Junjiao et al, 2017;Namisango and Kang, 2019

3.4. Measurement development

Frame work of the current study included six variables such as perceived information usefulness, Argument-quality, Information adoption, Source-credibility, Participatory behavior. Which were measured through multi-item scale. Statement of the studies adopted from the previous studies. Some changes were made as per the requirement of the study. Response to an item is captured using a Likert scale rating at 5 point and containing response level from “Strongly Disagree to Strongly Agree”.

TABLE 2: Construct description

Constructs “Source credibility, argument quality, perceived information usefulness, information adoption, participatory behavior” as defined by various authors.

Constructs	Author
Source credibility	Wu and Shaffer, 1987; Lafferty and Goldsmith, 1999; Junjiao Zhang , Naoya Ito, Wenxi Wu and Zairong Li, 2017; Traberg 2022
Argument quality	Cheung, et al., 2016; Junjiao Zhang , Naoya Ito, Wenxi Wu and Zairong Li, 2017
Perceived information usefulness	Junjiao, et al, 2017; Kumar & Asawa, 2016; Singh & Sinha, 2020 Heinrichs, J. H., Lim, J. S., & Lim, K. S., 2011
Information adoption	Junjiao Zhang , Naoya Ito, Wenxi Wu and Zairong Li, 2017; Sussman and Siegal ,2003 ; Namisango and Kang, 2019; Lee, et al., 2021.
Participatory behavior	Nwafor, C. U., Ogundeji, A. A., & van der Westhuizen, C. (2020) Saiphoo and Vahedi, 2019; Thomas, L., Orme, E., & Kerrigan, F., 2020

3.5 Data Collection

All respondent had prior experience with social networking sites. Data was gathered online, and a cover letter was included with the questionnaire link to tell respondents about the survey's goal and to assure them that the information they gave would be kept private (Sharma et al., 2021, 2022a, 2022c). Link of questionnaire were shared in different websites through various social media sources such as WhatsApp, LinkedIn, Facebook, Twitter and Instagram. Survey was continued for 3 months and in total 376 responses was collected. Due to time constraint and low rate of responses data collection process was ended after 3 months. Low response rates and non-response bias found in online surveys (Meese, Swart, Vidgen, Powell & McMahon, 2010, Sharma et al., 2019). There are no monetary or other incentives offered to respondents, and the survey displayed a message to participate in the survey, which is solely for academic purposes. Each respondent is required to provide his/her e-mail address in the survey to reduce the possibility of a respondent participating in the survey more than once.

4. Data analysis

To measure the reliability of the constructs Cronbach's alpha was calculated by using SPSS software. It's believed that Cronbach's alpha should be greater than 0.7 to be considered acceptable. Demographics suggest 98.5 % of respondents use social media usually on mobile phones (93.7%) and check notifications approximately 5-6 times per day for information seeking purposes. Interestingly, respondents use Facebook to get most reliable information regarding their country. As mentioned in the above table values of Cronbach's alpha is acceptable for all five constructs.

TABLE 3: Construct's Cronbach's Alpha

Construct	Cronbach's Alpha
Source Credibility (SC)	.90
Argument Quality (AQ)	.87
Perceived Information Usefulness (PU)	.72
Information Adoption (IA)	.86
Participation Behavior	.93

4.1. Assessment of the measurement model

The most used software IBM AMOS is applied to calculate measurement model and structural model. Measurement model explains relationship between the indicators while structural model focuses on the relationship between the latent constructs. Reliability and Convergent validity were measured by various calculations like factor loading, composite reliability and average variance extracted. Factor loading represents variability among the observed variables. It represents weight and each statements correlation value. Composite Reliability is an important measure to check the reliability in structural equation model process. The composite reliability measures the internal consistency of observed variable s loading on the latent variables.

In this analysis author tested a structural equation model using SPSS and AMOS and represented descriptive statistics of the indicators.

There are several tests that may be used to determine validity and reliability: CR is for Composite Reliability and it should be). CR >

0.7, AVE stands for Average Variance Extracted and it should be AVE > 0.5, MSV stands for Maximum Shared Variance, and ASV stands for Average Shared Variance it should MSV < AVE ASV < AVE. Square root of AVE greater than inter-construct (Hair et al., 1998). All required conditions are satisfied for the discriminant validity.

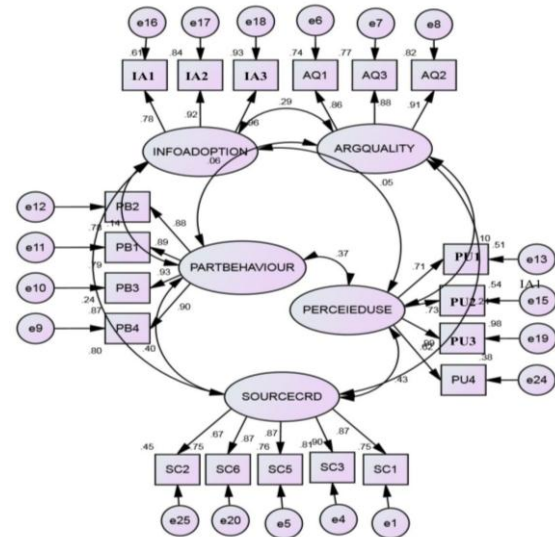


TABLE 4: Constructs Reliability and Validity

Constructs	Items	Factor Loading	Cronbach's alpha value	Composite reliability	AVE
Source Credibility (SC1)	SC1	0.866	0.918	0.922	0.704
	SC2	0.67			
	SC3	0.899			
	SC5	0.872			
	SC6	0.868			
Argument Quality (AQ)	AQ1	0.859	0.913	0.913	0.704
	AQ2	0.908			
	AQ3	0.878			
Perceived Information Usefulness (PU)	PU1	0.781	0.752	0.854	0.602
	PU2	0.918			
	PU3	0.964			
	PU4	0.617			
Information Adoption (IA)	IA1	0.714	0.832	0.92	0.794
	IA2	0.734			
	IA3	0.99			
Participation Behaviour	PB1	0.891	0.945	0.945	0.812
	PB2	0.881			
	PB3	0.935			
	PB4	0.896			

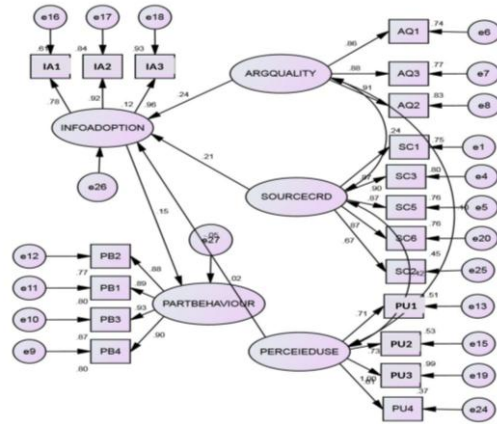
TABLE 5: Discriminant Validity

Factors	Sourcecrd	Argquality	Part Behaviour	Perceieduse	Infoadoption
Sourcecrd	0.839				
Argquality	0.242	0.882			
Partbehaviour	0.395	0.061	0.901		
Perceieduse	0.426	0.096	0.372	0.776	
Infoadoption	0.238	0.286	0.144	0.054	0.891

From the **TABLE 5**, The shared variance between the factors was found to be lower than the average variance extracted from the individual factors. As a result, discriminant validity is established.

4.2 Assessment of the structural model

In structural model R square value (Coefficient of Determination) measure is used to examine structural model. This coefficient helps in finding model's predictive accuracy. The model fit indicators of the structural model were satisfactory. In this model CMIN/DF value was 2.071 and its accepted because its below 3 (accepted range). RMSEA value was .063 also laying in the acceptable range i.e., less than .08. Other indicators also reflecting positive values like CFI .961, GFI .899, AGFI .867 and TLI .954 all values found satisfactory. Total number of hypotheses in this model were four, out of four hypotheses, three were found significant.



thus not supporting hypothesis H₃. Further, PARTBEHAVIOUR (PB) is significantly influenced by INFOADOPTION ($\beta = 0.22$, $p < .001$) thus supporting hypothesis H₄.

5. Discussion and Conclusion

The main objective of the current study was to find out User's involvement in the information

TABLE 6: A summary of hypothesis testing results presented in a given table-

Results of Structural model					
H	Relationship	Path	p-value	Magnitude	Result
H ₁	ARGQUALITY---> INFOADOPTION	0.19	0.001	Positive	Accepted
H ₂	SOURCECRD ---> INFOADOPTION	0.18	0.001	Positive	Accepted
H ₃	PERCIEVEDUSE ---> INFOADOPTION	-0.05	0.408	Negative	Not Accepted
H ₄	INFOADOPTION ---> PARTBEHAVIOUR	0.22	0.001	Positive	Accepted

On the basis of data analysis Hypotheses H₁, H₂, H₄ were supported by the empirical data but H₃ was not supported hence rejected. The results show ARGQUALITY (AQ) significantly influenced INFOADOPTION ($\beta = 0.19$, $p < .001$) and supporting hypothesis H₁. SOURCECRD (SC) significantly influenced INFOADOPTION ($\beta = 0.18$, $p < .001$), supporting H₂ but PERCIEVEDUSE does not significantly influence INFOADOPTION ($\beta = -0.05$, $p < .001$),

flow paradigm on social networking sites during COVID-19. This was achieved through application of structural equation modelling technique. Social media has shown immense growth amid pandemic situation and has been used to reduce distances virtually by becoming a platform for fastest communication. Factors that determine helpfulness of SNSs are number of views of the site by the user, value of the information to the user and the perceived quality of the information. Based on Information Adoption Model, this study aims to determine if source

credibility, perceived usefulness and argument quality are predictors of information adoption using social media as an information source. Current study makes a significant contribution to the current knowledge as it implores the relationship of information adoption and evaluation action and further participatory behavior through social networking sites.

Previous studies have shown that users of social media evaluate the information by assessing the credibility of the source (Sussman and Siegal, 2003; Cheung, Luo, Sia and Chen, 2009; Sharma et al.2022c). Credibility is a versatile factor, not only it affects the information adoption but also the quality of the information. Credibility of the information source determines the likeability and the reliability of the information. Credibility of the source is important to user because there is various fake news forwarded by people on social media (Talwar et al., 2020). The study is in mark with theoretical model of information adoption proposed by (Sussman and Siegal, 2003) which emphasized on argument quality and source credibility to be most important factors facilitating information adoption. Finding of the study is corresponded to previous researches.

In our study, we discovered that those with fewer educational qualifications are more likely to spread bogus news than those with greater education. An expert judgement of material is required for social media users to assess if the information they got is accurate or fraudulent. This is because fake news creators tend to exploit the non-intellectual characteristics of some people.

Further, relevance of the information increases when it is useful to the user, which in turn also increases the chance of information adoption (Sharma et al., 2022c; Venkatesh, Thong, & Xu, 2012; Zhang, Zhao, & Xu, 2016). Usability of the information on social networking sites renders the user the ability to make better decision (Dong, et al., 2018). People who use social media as their primary source of information may assume that material shared on the platform is accurate and trustworthy. This was the third most important element in predicting the spread of bogus news. One possible explanation for this is that social media allows users to gain fame, which

encourages them to share information. According to previous research, people who have a high level of trust for online information are more likely to distribute actual news, but they may also accidentally spread bogus news. Our data reveal a favourable relationship between confidence in online information and fake news spreading related to the COVID-19 epidemic among Indian social media users, according to the researchers. However, our findings imply that status is important.

The results of the study revealed that perceived usefulness is not a predictor of information adoption. Past researches have shown information from social media impacts the participatory behavior of the information receiver (Shirazi, 2013; Aillerie & Mcnicol, 2017; Ali et al, 2019). The current study's findings also support the link between information adoption and participatory behavior, particularly when the information is shared via social media networks.

6. Implications for research

Theoretical Implication

This study has numerous consequences from the perspective of social media used as information gathering medium. The study would help its stakeholders understand the predictors of information adoption. It reveals the importance of credibility of the source as this acts as a peripheral cue in persuading the user about the trustworthiness of the information. Moreover, the central point at issue is still argument quality. The quality of the argument which is determined by the completeness, accuracy, relevance and timeliness of the information has the major impact on information adoption. Marketers must use quality information backed by credible source to increase the chances of information adoption by the user. Acceptance of the information would lead to the participatory behavior by the user. This could ultimately translate into participatory behavior, which stakeholders are interested in. This study will also contribute in literature related to information adoption, online communities, perceived usefulness and participatory behavior of people.

Managerial Implications

This study has several managerial implications that can help a policy maker to

develop their related strategies. As per results of the study gives a better understanding of social media users' behaviour when it comes to spreading false information. It gives a better grasp of how false content spreads on social media as a result of this study. As a result, boosting media literacy could be a significant technique for preventing the inadvertent spread of false information on social media. There is a lot of unsubstantiated information on social media about the COVID-19 epidemic; as a result, social media users should not only believe anything as it is. But should try to verify it before sharing it. In general, we urge health-care providers and the Nigerian government to offer timely information about the present pandemic. That is, accurate information should be broadly disseminated. That is, accurate information should be extensively disseminated to the public via traditional and online media. This will reduce the spread of false information about online cures and preventative tips. Because combating the virus necessitates everyone following medical advice, accurate information is critical now. Without clear and rapid effort to dispel disinformation online, the COVID-19 pandemic will be much more difficult. We also advise social media users to always check the news that is shared, regardless of who is sharing it. Finally, we discovered a relationship between status seeking and the spread of bogus news. Social media user's status and reputation in online social groups can be sustained if they are mindful of what they share.

7. Limitations

Because the sample size for the study analysis was very small, the only constrained limit is the generalizability of our findings. To assess the long-term impacts of online risk exposure, we rational suggestion that use a bigger sample size along with longer duration in future studies. To give more evidence on the influence of SNS engagement on users' participative behavior, prospective studies can be undertaken by analyzing the data from other growing economies, like China, United States of America, and other highly SNSs sites users.

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AN EMPIRICAL INVESTIGATION INTO WHY STARTUPS RESIST USE OF DIGITAL MARKETING

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ABSTRACT

Despite the challenges of pandemics and economic slowdown, the Indian economy is witnessing a surge in entrepreneurial activities. At the same time, we are also seeing start-up companies witnessing financial losses, mass lay-offs and salary cuts due to pandemic restrictions and economic slowdown. The main reason for failure is the lack of a viable strategy to develop and execute a strong branding, promotion and marketing strategy. Digital marketing offers a viable and affordable option to start-ups for marketing and brand building. However, many of the start-ups are resistant to the use of digital marketing for marketing and brand building. The purpose of the research study is to understand why start-ups resist the adoption of digital marketing tools and technologies. We have conducted a cross-sectional study by collecting primary data from 355 respondents from a similar number of companies, who were either owners of start-up companies or managers working in start-up companies. The important finding was that factors like usage barrier, value barrier, risk barrier and psychological barrier were the major inhibitors to the adoption of digital marketing by start-ups. Gender, age and size of the company played a moderating role in influencing the adoption intention. For male owners of start-up companies, the effect of usage barrier, value barrier, risk barrier and psychological barrier all were significant, while for female owners, only the effect of value barrier and risk barrier was significant. Value barrier and risk barrier had a significant impact on young owners, while usage barrier and value barrier had a significant impact on middle-aged owners and value barrier and risk barrier had a significant impact on old owners.

Keywords: start-ups, digital marketing, innovation resistance theory, functional barrier, psychological barrier

1. INTRODUCTION

Despite the pandemic and economic slowdown challenges, the Indian economy has witnessed a surge in entrepreneurial activities. The number of start-ups registered in India, as of 31st March 2022, is 61,400, which is the third highest in the World (Nair, 2022). India also has more than 100 Unicorns. A Unicorn is a start-up that has reached a billion-dollar valuation (Team Inc42, 2022).

While on one side, we have start-ups in India that are scaling up at a rapid pace, there are also start-ups that are facing immense difficulty in reaching out to the right

customers and sustaining their business. These are the start-ups that are operating on meagre working capital and do not have sufficient cash to spend on promoting their business through the print medium, electronic medium or sponsorships. For them, digital marketing is a viable option where the return-on-ad-spend (ROAS) can be maximized using an optimum budgetary allocation (Chahal & Chakraborti, 2018; Sharma et al., 2022a; Jain et al., 2021).

Digital marketing offers both organic and inorganic options for marketing and promotion. Organic digital marketing can be done without any financial investment.

“Search Engine Optimization (SEO)”, “Social Media Marketing (SMM)”, “E-mail Marketing” and “Content Marketing” come under the organic options. Under the inorganic option, payment needs to be made to Google and social media companies. Search Engine Marketing (SEM), promoting social media pages or collecting leads through forms and affiliate marketing comes under the inorganic option (Ryan, 2016).

Under the organic option, the marketer has very limited control over the process, and brand building takes time. The inorganic option gives full control to the marketer and brand building is faster than the organic option. In the inorganic option, the marketer has a choice to start with a small investment, analyse whether marketing goals have been achieved and then go for incremental hiking of the budget (Gupta, 2018).

Despite all the flexibility and affordable options to get high visibility and greater reach among targeted customers, are start-ups adopting digital marketing tools? We conducted a survey among 1000 start-up companies in nine cities and found that only 32% of the surveyed companies are currently using digital marketing tools, 23% of the companies are considering using them in the future and 45% of the companies are not using the same. The main reasons given for adopting digital marketing tools are low cost, high reach, better control over the process and mapping the outcome through analytics. The main reasons given for not adopting digital marketing tools are lack of understanding, lack of capability, lack of trust and fear or hacking.

There are a lot of research studies that have been carried out on adoption of technology by entrepreneurs and business enterprises. The diffusion of innovation (DOI) theory was propagated by Rogers (1962). Later Fishbein and Ajzen (1975) developed the theory of reasoned action (TRA). The postulates of TRA were used by Fred Davis (1989) to develop the technology acceptance model or TAM. Tornatzky & Fleischer (1990) developed the Technology-Organization-Environment (TOE) Model that mapped the effects of technological factors, organizational factors and environmental factors regarding technology adoption. Venkatesh et al. (2003), added more

constructs to the TAM and other models to develop the Unified Theory of Acceptance and Use of Technology (UTAUT) Model. James Westaby (2005) postulated the behavioural reasoning theory (BRT) Model that studied both reasons for and reasons against adoption of technology.

While these theories and models have been used by scholars to explain why companies adopt technology, the Innovation Resistance Theory or IRT given by Ram & Seth (1989) specifically provides the constructs to analyse why companies and entrepreneurs resist the use of technology. While using this model to conduct our study, we have done value addition by conducting a multi-group analysis to find out whether there is a significant difference in approach to digital marketing adoption based on gender, age and size of the company. This makes our research work important for scholars and practitioners who are doing research on the adoption of digital marketing by start-ups and entrepreneurs.

The two research questions that have been addressed through our conceptual model are: RQ1. What are the barriers that significantly impact the adoption of digital marketing by start-ups? RQ2. Is there a significant difference in approach to digital marketing adoption based on gender, age and size of the company? A cross-sectional study was carried out on 355 respondents, who were either owners or managers of start-up companies to draw the inferences by analysing the data using the Partial Least Square – Structural Equation Modelling (PLS-SEM) technique and SmartPLS software (Sharma et al., 2021, 2022a, 2022b).

The novelty of our research work comes from two aspects. First, our study of extant literature revealed that no major research work has been carried out to understand why start-ups are resistant to adopting digital marketing. This represented a major gap in our study of secondary literature. Second, no significant research work has been carried out to understand whether there is a significant difference in approach to digital marketing adoption based on gender, age and size of the company. Our research work, done by using Multigroup Analysis (MGA), seeks to address this research gap.

2. LITERATURE REVIEW

2.1 Digital Marketing Adoption Among Start-ups

According to Kotler (2010), "Digital Marketing is defined as a form of direct marketing which links consumers with sellers electronically using interactive technologies like emails, websites, online forums and newsgroups, interactive television, mobile communications".

The earlier version of digital marketing comprised of "search engine optimization (SEO)" and "search engine marketing (SEM)" offered by Google. There was also social media marketing (SMM) done through Facebook, Instagram, Twitter, YouTube, LinkedIn and others. The other tools of first-generation digital marketing were "e-mail marketing, mobile marketing and affiliate marketing" (Sharma *et al.*, 2021). Then came Digital Marketing 2.0, where marketers used tools like Content Marketing, Social Listening, Online Reputation Management (ORM) and Growth Hacking. Now we are in the era of Digital Marketing 3.0, where the tools used are Chatbots, Cookies, Automated Responders, "Artificial Intelligence and Machine Learning (AIML)" and "Internet-of-Things (IoT)" for marketing and promotions (Chahal & Chakraborty, 2018). Companies are now mapping digital footprints and using that for remarketing (Arya, Paul & Sethi, 2019).

There have been several research works done by scholars regarding the adoption of digital marketing by companies. In their research work on digital marketing adoption by small businesses, Ritz, Wolf and McQuitty (2018) inferred that "technological benefits may not be the only motivators for small business owner/managers who undertake digital marketing". Teixeira *et al.*, (2018), identified factors like top management involvement, support and trust, perceived utility and ease of use as the main drivers of digital marketing adoption by start-ups. Taiminen and Karjaluoto (2014) found that small and medium enterprises are not aware of the potential benefits that can be accrued from digital marketing, and hence are not using the same. From the study of extant literature, we found that there was no major study done on digital marketing adoption by start-ups and why they resist the use of digital marketing, and that represents a major gap.

2.2 Innovation Resistance Theory (IRT)

There have been several theories and models that explain why entrepreneurs and managers adopt innovative technology. However, there are very few theories that have studied why people resist innovative technologies. One of such models is the innovation resistance theory (IRT) proposed by Ram and Sheth (1989).

The innovation resistance theory explains two main barriers to adopting innovation which are called "functional barriers and psychological barriers". The functional barriers are further classified as "usage barriers, value barriers and risk barriers". The psychological barriers are classified as traditional barriers and image barriers. From the study of extant literature, we have adapted the constructs and indicators for conducting our study on resistance to the adoption of digital marketing by start-ups.

3. CONCEPTUAL FRAMEWORK AND HYPOTHESIS FORMULATION

The conceptual model is given in Figure - 1, which illustrates the relationship between the constructs usage barrier, value barrier, risk barrier and psychological barrier and the effect on adoption intention of digital marketing. The present study investigates the factors leading to adoption intention in the context of digital marketing adoption by start-ups. This is conceptually based on innovation resistance theory (IRT) which explains the various types of resistance faced during the adoption of technology (Ram and Sheth, 1989). There are several studies conducted on barriers to adoption of innovative technologies in different sectors like eco-friendly cosmetics (Sadiq, Adil, & Paul, 2021), internet banking services (Matsuo, Minami, & Matsuyama, 2018) and online shopping (Lian & Yen, 2014). However, none of the studies have used the innovation resistance theory to explain why start-ups resist the adoption of digital marketing for promotional purposes.

3.1 Hypothesis Formulation

Ram and Sheth (1989) explained that "usage barrier occurs when the innovative technology is not compatible with existing work processes, or it requires a change in work routines". The owners of start-ups and managers working in start-ups do not feel comfortable adopting technology that needs a

drastic change in the work process as this will entail training the employees and creating an environment of uncertainty and ambiguity. They would rather continue with the traditional processes until they are forced to change due to some external stimuli.

Laukkanen and Cruz (2010) have postulated that usage barrier poses the strongest resistance when it comes to the adoption of technology. There are several studies done with regards to the adoption of technology in airports (Han, Lee & Kim, 2018) and mobile payment services (Liébana-Cabanillas and Lara-Rubio, 2017) which have shown that usage barrier has a significant impact on technology adoption. Based on the extant literature, we have developed our hypothesis:

H1. The usage barrier has a significant impact on the adoption intention of start-up entrepreneurs and managers with regard to digital marketing tools and technologies

The second type of resistance to technology adoption comes from the value barrier. Ram and Sheth (1989) have explained that “value barrier occurs when the innovative technology fails to deliver a strong performance-to-price value compared with product substitutes”. Or in other words, we can say that the user is not getting the value for money by adopting the new technology. In the case of start-ups, if the entrepreneur feels that there is no substantial value achieved by switching from the traditional mode of publicity and promotion to digital media, they will resist the adoption of digital marketing tools and technologies.

The phenomenon of the value barrier has been studied by Laukkanen & Kiviniemi (2010) in the context of mobile banking. Their inference has been that value barrier has a significant impact on technology adoption process. Further studies done by Sivathanu (2018) confirmed that value barrier indeed poses a serious resistance to the adoption of technology. Other studies done on hotels (Okumus et al., 2017) and restaurants (Lee et al., 2019) have confirmed that value barrier has a significant impact on the adoption of technology. From these studies, we have formulated the hypothesis:

H2. The value barrier has a significant impact on the adoption intention of start-up

entrepreneurs and managers with regards to digital marketing tools and technologies

The next barrier to adoption of technology comes from risks associated with the same. There are four types of risks explained by Ram and Sheth (1989). They are “physical risk, economic risk, functional risk and social risk”. Physical risk is the fear that there would be harm caused to the physical property or assets of the entrepreneur. Economic risk is the fear that there will be monetary loss to the start-up business. Functional risk is that the performance or productivity of the business will go down. Social risk is the fear that the entrepreneur will face criticism from their peers or customers for adopting digital marketing tools.

A study done by Laukkanen (2016) on mobile banking revealed that customers feared the adoption of mobile banking due to the perceived risks of low battery life of mobiles and the risk of hacking. Further studies done by Sivathanu (2018) also confirmed the effect of risk barrier on technology adoption. A recent study done by Huang et al (2020) on hospitality services found that consumers are likely to discard their intention to adopt technology because of perceived risks. Following these arguments, we have formulated our hypothesis as follows:

H3. The risk barrier has a significant impact on the adoption intention of start-up entrepreneurs and managers with regards to digital marketing tools and technologies

The traditional barriers and image barriers are classified under the construct “psychological barrier” (Ram and Sheth, 1989). A “traditional barrier” may occur when the regular routine gets hampered. Lian and Yen (2014), in their research study done on online shopping, have shown that there is a negative association between technology adoption and traditional barrier. Other studies done by different scholars on mobile banking (Laukkanen, 2016), mobile shopping (Gupta and Arora, 2017) and mobile payment services (Sivathanu, 2018) have further confirmed that traditional barrier can create resistance to technology adoption.

According to Ram and Sheth (1989), “an image barrier arises from stereotypes about an

innovation, which may relate to its country of origin or an associated brand". For example, there are a lot of restrictive policies of Google and Facebook and other social media companies, which are framed as per USA Government rules and regulations, which might not be applicable in Indian context. Also, if the entrepreneur has a preconceived notion that digital marketing tools are complicated, that image might become a barrier to the adoption of digital marketing tools and technologies.

Hence, we can hypothesize that:

H4. The psychological barrier has a significant impact on the adoption intention of start-up entrepreneurs and managers with regards to digital marketing tools and technologies

The proposed conceptual model is given below:

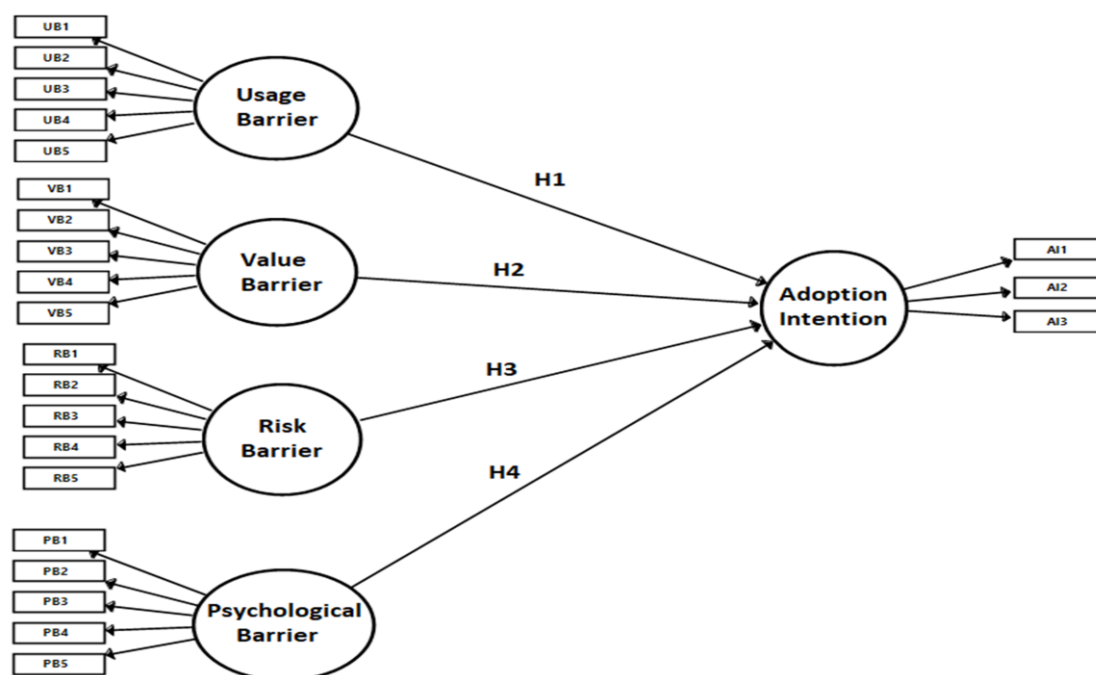


Figure - 1: Conceptual Model

4. RESEARCH METHODOLOGY

For conducting the research on why start-ups resist the use of Digital Marketing, we have used IRT given by Ram and Sheth (1989) to construct a conceptual model comprising of five constructs and twenty-three indicators. The table of measurement items is given in Appendix I. The conceptual model is given in Figure - 1.

The cross-sectional data was collected from a sample of 355 respondents, who were either owners or managers of start-up companies. The start-ups were identified from the list of start-up companies given in <https://www.startupindia.gov.in>. We sent our questionnaire to 400 companies and got response from 355 companies, which indicates a response rate of 88.75%.

We have used non-probability purposive sampling design to conduct descriptive research (Sharma, 2021; Sharma et al., 2022b, 2022c). The minimum sample size required was found to be 150 using the Daniel Soper Sample Size Calculator with an effect size of 0.3, statistical power level of 0.8, five latent variables, 23 indicators and probability level of 0.05 (Soper, 2022). Our target sample size of 355 is much higher than the minimum required sample size.

5. DATA ANALYSIS AND INFERENCES

The hypotheses formulated for this research were tested through a two-stage process given by Hair *et al.* (2019). In the first stage, the construct reliability, convergent validity and discriminant validity were ascertained through the measurement model assessment. In the second stage, the strength and significance of the path coefficients is evaluated through structural model

assessment to ascertain the relationships hypothesized between the constructs (Hanaysha et al., 2021; Rashid et al., 2022).

5.1 Measurement Model Analysis

The measurement model has been assessed following the process given by Hair *et al.*

(2019). Under the measurement model assessment, we have assessed the indicator reliability, internal consistency, convergent validity and discriminant validity. The factor loadings of the indicators are above the threshold value of 0.708, except for AI3 which is lower than the threshold value. However,

Table - 1: Demographic Details of the Respondents

Profile	Characteristics	Frequency	Percentage
Gender	Male	202	56.9
	Female	153	43.1
Age	20-30	154	43.4
	30-50	112	31.5
	Above 50	89	25.1
Yearly Turnover	Below INR 20 lakhs	164	46.2
	INR 20 lakhs - INR 10 Million	108	30.4
	Above INR 10 Million	83	23.4

Table - 2: Reliability and Validity of Construct Loadings and Indicator Loadings

Construct	Items	Indicator Loadings	VIF	CR	AVE
Usage Barrier (UB)				0.918	0.693
	UB1	0.777	1.797		
	UB2	0.835	2.271		
	UB3	0.838	2.225		
	UB4	0.877	2.725		
	UB5	0.833	2.097		
Value Barrier (VB)				0.907	0.662
	VB1	0.828	2.110		
	VB2	0.786	1.926		
	VB3	0.767	1.698		
	VB4	0.841	2.175		
	VB5	0.844	2.264		
Risk Barrier (RB)				0.906	0.658
	RB1	0.812	2.016		
	RB2	0.800	1.856		
	RB3	0.773	1.704		
	RB4	0.839	2.157		
	RB5	0.830	2.135		
Psychological Barrier (PB)				0.918	0.691
	PB1	0.870	2.567		
	PB2	0.825	2.130		
	PB3	0.828	2.093		
	PB4	0.808	1.993		
	PB5	0.824	2.137		
Adoption Intention (AI)				0.813	0.594
	AI1	0.786	1.391		
	AI2	0.837	1.447		
	AI3	0.680	1.162		

this is acceptable as the composite reliability score of AI is above the satisfactory level of 0.70 (Saari, Damberg, Frömling, & Ringle, 2021).

The internal consistency has been measured with using Jöreskog's (1971) composite reliability (CR). The composite reliability values in our research are between 0.813 and 0.918, which are within the acceptable range (Jöreskog, 1971). As per Hair *et al.* (2019), "the composite values in the range of 0.70 and 0.95 are considered to be satisfactory to good". Our values do not cross the threshold range of 0.95 and hence can be considered satisfactory.

The convergent validity has been measured with average variance extracted (AVE). The AVE values of all the constructs in our study exceed the critical value of 0.5, which indicates that the constructs explain at least 50 per cent of the variance of its items (Hair *et al.*, 2019).

The final step of the measurement model assessment is assessing the discriminant validity. The discriminant validity in our study has been assessed using the Fornell-Larcker Criterion (1981) and Heterotrait-Monotrait (HTMT) ratio (Henseler *et al.*, 2015). The Fornell-Larcker Criterion readings of our research are given below:

Table - 3: Discriminant Validity (Fornell-Larcker Criterion)

	AI	RB	PB	UB	VB
AI	0.796				
RB	0.654	0.811			
PB	0.642	0.627	0.831		
UB	0.613	0.563	0.609	0.832	
VB	0.766	0.589	0.634	0.606	0.814

In the Fornell-Larcker Criterion Table, shared variance values were less than the corresponding average variance extracted. Hence, we can infer that the discriminant validity is established (Fornell and Larcker, 1981).

A better way to measure the discriminant validity is by using HTMT Ratio (Henseler *et al.*, 2015). The HTMT is defined as "the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same

construct (Hair *et al.*, 2018)". The HTMT values of our study is given in the following table:

Table - 4: Discriminant Validity - Heterotrait Monotrait (HTMT) Ratio

	AI	RB	PB	UB	VB
AI					
RB	0.886				
PB	0.842	0.712			
UB	0.800	0.640	0.683		
VB	0.640	0.674	0.721	0.688	

The HTMT values of our study are less than the threshold value of 0.90 (Henseler *et al.*, 2015). Hence, we can infer that discriminant validity of our research has been established.

The cross loadings of the discriminant validity are given in Appendix II

5.2 Structural Model Assessment

After completing the measurement model assessment, the next step is to assess the structural model. This is done through the path analysis through a series of regression equations and assessing their significance (Hair *et al.*, 2018).

In the first step of structural model assessment, we have measured the R² values of adoption intention which is coming to 70.6%. As per explanation given by Shmueli and Koppius (2011), "the R² measures the variance, which is explained in each of the endogenous constructs and is therefore a measure of the model's explanatory power". The R² values of adoption intention is high and hence validates the explanatory power of the proposed model.

The predictive importance and relevance were tested through the effect size (f²) and predictive accuracy ("Stone-Geisser's Q²") of the proposed model. The f² value of AI has come to 50.3%, which is considered to be large effect size (Cohen, 1988). The Stone-Geisser's Q² in our research work has been found to be 40%, which indicates a moderate predictive relevance (Geisser, 1975; Stone, 1974).

The path analysis found that all four hypotheses are supported. The results of the path analysis is given in the following table:

Table – 5: Structural Model Assessment

Outcome	Predictor	Hypothesis	β	Confidence Interval		p Values	Significance	f^2
				2.50%	97.50%			
AI ($R^2 = 0.706$)	UB	UB \rightarrow AI	0.101	0.025	0.179	0.011	Yes	0.021
	VB	VB \rightarrow AI	0.545	0.451	0.631	0.000	Yes	0.503
	RB	RB \rightarrow AI	0.213	0.12	0.306	0.000	Yes	0.085
	PB	PB \rightarrow AI	0.102	0.016	0.185	0.022	Yes	0.019

The analysis shows that adoption intention is significantly impacted by value barrier ($\beta = 0.545$, $p < 0.001$). It is also seen that adoption intention is significantly impacted by risk barrier ($\beta = 0.213$, $p < 0.001$). Finally, we can also infer that usage barrier ($\beta = 0.101$, $p < 0.05$) and psychological barrier ($\beta = 0.102$, $p < 0.05$) both have a significant impact on adoption intention.

lakhs. The medium-scale start-ups are the ones that have a turnover between INR 20 lakhs to INR 10 million. The large-scale start-ups are the ones that have a turnover of more than INR 10 million.

We found that there is a significant difference in approach to digital marketing adoption based on gender, age and size of company. For male owners of start-up companies, the effect

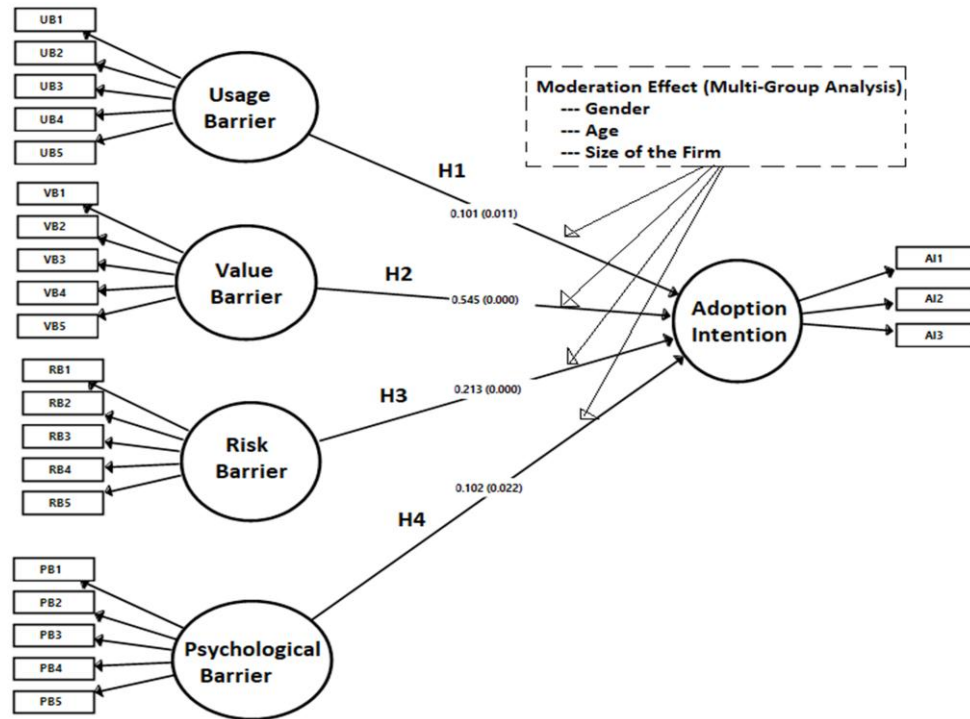


Figure – 2: Structural Model Assessment

5.3 Multigroup Analysis

Based on extant literature, we have examined the moderating effect of gender, age and size of start-up companies on digital marketing adoption by start-ups using the bootstrap method and 95% confidence interval. For our research work, we have classified 20-30 years age group as young, 30-50 years age group as middle aged and above 50 years of age as old. The small-scale start-ups are the ones that have an annual turnover of less than INR 20

of “usage barrier, value barrier, risk barrier and psychological barrier” all were significant, while for female owners, only the effect of “value barrier and risk barrier” were significant. Value barrier and risk barrier had a significant impact on young owners, while “usage barrier and value barrier” had a significant impact for middle-aged owners and “value barrier and risk barrier” had a significant impact on old owners.

The size of the start-up firm also mattered when it comes to digital marketing adoption. For small scale start-ups, “value barrier and risk barrier” had significant impact, while “usage barrier and psychological barrier” had no significant impact. For medium scale start-ups, “usage barrier and value barrier” had significant impact while “risk barrier and psychological barrier” had no significant impact. For large scale start-ups, “usage barrier, value barrier and risk barrier” all had significant impact while psychological barrier had no significant impact.

accordance with prior research done on different sectors using the IRT Model (Sadiq, *et al.*, 2021; Ma & Lee, 2019; Matsuo *et al.*, 2018 Lian, *et al.*, 2014). This study will definitely be of key importance to theoretical researchers, managers and entrepreneurs associated with start-ups and policy makers to understand why digital marketing technology is not being adopted by start-ups in large scale.

The final conclusion of this research is that value barrier ($\beta = 0.545$, $p < 0.001$), risk barrier ($\beta = 0.214$, $p < 0.001$), usage barrier ($\beta = 0.102$,

Table – 6: Results of PLS-MGA Analysis

Path	Male	Female	Young	Middle Aged	Old	Small Scale Startup	Medium Scale Startup	Large Scale Startup
UB -> AI	0.006**	0.521 ^{ns}	0.726 ^{ns}	0.0200*	0.236 ^{ns}	0.932 ^{ns}	0.023*	0.025*
VB -> AI	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
RB -> AI	0.010**	0.000***	0.001**	0.104 ^{ns}	0.016*	0.005**	0.132 ^{ns}	0.005**
PB -> AI	0.009**	0.419 ^{ns}	0.168 ^{ns}	0.065 ^{ns}	0.236 ^{ns}	0.182 ^{ns}	0.088 ^{ns}	0.097 ^{ns}

NB: *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$, ns = not supported

6. DISCUSSION

The research study was carried out to understand why start-ups resist use of Digital Marketing. Though there are many theories and models like DOI (Rogers, 1962), TAM (Davis, 1989) and TOE (Tornatzky and Fleisher, 1990) that explains why entrepreneurs and managers adopt technology, there are very few theories and models like Innovation Resistance Theory (Ram and Sheth, 2001) that explain why they resist using innovations and new technology. This study is important as the inferences help us to understand why start-up companies are hesitant to use digital marketing tools and technologies although the benefits offered are quite large.

Through extensive study of extant literature, we have identified constructs like “usage barrier, value barrier, risk barrier and psychological barrier” that help to explain the adoption intention of digital marketing among start-ups. The inference from the study shows that the latent variables like “usage barrier, value barrier, risk barrier and psychological barrier” played a significant role in explaining the resistance to adoption intention of digital marketing among start-ups in India. This is in

$p < 0.05$) and psychological barrier ($\beta = 0.101$, $p < 0.05$) play a significant role in explaining the reasons against adoption of digital marketing by start-ups. Gender, age and size of the start-up also have a significant bearing on the adoption of digital marketing.

7. THEORETICAL IMPLICATION

There are four major theoretical implications of our study. First, it contributes to the extant literature on digital marketing adoption by start-up companies. The research interest in start-up companies and entrepreneurship is rising in India with a growing number of start-up companies getting the Unicorn status, and this research work will add to the emerging area of research.

Second, we have added value to the IRT Model by applying multi-group analysis (MGA). This research work adds value to the seminal work done by Ram and Sheath (1989) by using moderators like gender, age and size of start-up companies to examine the adoption of digital marketing in different contexts. This will help future researchers to effectively understand the factors that create resistance when it comes to adoption of digital

marketing and develop clear and concise solutions to resolve the issues.

Third, there are quite a number of studies that have been done on why start-up companies adopt digital marketing. Teixeira et al. (2018) conducted a study on main Factors in the adoption of digital marketing in start-ups. Ananya Goswami (2016) conducted a study on E-Commerce Adoption by Women Entrepreneurs in India. Ritz, Wolf and McQuitty (2019) conducted a study on digital marketing adoption and success for small businesses. Our study has been done on a different context and shed light on why start-ups resist use of digital marketing. This study can guide other research scholars who are interested to understand why start-up companies are not adopting digital marketing tools and technologies despite several advantages and cost benefits.

Fourth, although the IRT has been employed by different researchers to explain the resistance to adoption of technology in different sectors, this is perhaps the first time that IRT has been used to explain the resistance to adoption of digital marketing by start-ups. Our study provides a validation that the constructs usage barrier, value barrier, risk barrier and psychological barrier indeed have a strong bearing on the digital marketing adoption by start-ups. This increases the scope of the application of the IRT Model and will help future scholars to build upon this model and apply this in studies relating to start-ups and entrepreneurs.

Practical Implication

There are three main practical implications of our study. First, the results from our study show that usage barrier, value barrier, risk barrier and psychological barrier indeed have a strong bearing on the digital marketing adoption by start-ups. The owners and managers of start-ups need to address these issues proactively in order to make digital marketing adoption successful in their business venture. This can be done by organizing training sessions to make the users understand how to use the digital marketing tools in the right way and by using analytical tools associated with digital marketing to demonstrate that use of digital marketing can lead to tangible gains and competitive advantage.

Second, our study found that there is significant difference in approach to digital marketing adoption based on gender, age and size of company. For male owners of start-up companies, the effect of “usage barrier, value barrier, risk barrier and psychological barrier” all were significant, while for female owners, only the effect of “value barrier and risk barrier” were significant. Value barrier and risk barrier had a significant impact on young owners, while “usage barrier and value barrier” had a significant impact for middle-aged owners and “value barrier and risk barrier” had a significant impact on old owners. This shows that we cannot have a broad and generalized policy and strategy for the successful adoption of digital marketing. The policy and strategies pertaining to digital marketing adoption in start-ups must be customized as per age and gender.

Third, our study revealed that the size of the start-up firm also mattered when it comes to digital marketing adoption. For small scale start-ups, “value barrier and risk barrier” had significant impact, while “usage barrier and psychological barrier” had no significant impact. For medium scale start-ups, “usage barrier and value barrier” had significant impact while “risk barrier and psychological barrier” had no significant impact. For large scale start-ups, “usage barrier, value barrier and risk barrier” all had significant impact while psychological barrier had no significant impact. This is an important finding that needs to be taken into consideration for business strategists and policy makers. The policies and strategies made for motivating start-ups to adopt digital marketing must be different based on whether the start-up belongs to the small scale, medium scale and large scale category.

8. Conclusion, Limitation and Future Work

This research work made an endeavour to understand why start-ups resist use of digital marketing by applying the innovation resistance theory. This study used constructs like “usage barrier, value barrier, risk barrier and psychological barrier” to understand the reasons why start-ups do not adopt digital marketing. The inference is that “usage barrier, value barrier, risk barrier and psychological barrier” does have a significant impact on the adoption of digital marketing for brand building, promotions and marketing

by start-ups". The study also uses moderators like gender, age and size of the start-up company to understand whether there is significant difference between the moderators in creating resistance to adoption of digital marketing tools and technologies by start-ups.

This research work has examined the reasons that work against the adoption of digital marketing tools and technologies by start-ups. Future researchers should also examine the reasons that motivate the use of digital marketing tools and technology by start-ups. A better approach would be to simultaneously examine both the "reasons for and reasons against the adoption" of digital marketing

tools and technologies by start-ups. For this, the behavior reasoning theory (BRT) given by James Westaby (2005) might be useful to conduct the research. A longitudinal study in place of cross-sectional study might give more incisive inferences.

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Appendix - I : Measurement Items

Construct	Item Code	Item Description	Adapted from Source
Usage Barrier (UB)	UB1	Using digital marketing tools was difficult for me	Laukkanen (2016), Ram and Sheth (1989)
	UB2	Using digital marketing tools was inconvenient for me	
	UB3	The method and procedure of using digital marketing tools is not clear to me	
	UB4	The digital marketing tools are not operating the way I want to be	
	UB5	Using digital marketing tools was complex and complicated for me	
Value Barrier (VB)	VB1	Digital marketing tools do not offer any value addition to my business	Laukkanen (2016), Ram and Sheth (1989)
	VB2	Digital marketing tools do not offer any competitive advantage	
	VB3	Digital marketing tools does not help me to reach out to my target customers	
	VB4	Digital marketing tools does not help me to get more visibility in the market	
	VB5	Digital marketing is not more effective and affordable than traditional modes of promotion	
Risk Barrier (RB)	RB1	I fear that my system may be hacked if I use digital marketing tools	Johnson et al. (2018), Sivathanu (2018), Ram and Sheth (1989)
	RB2	I fear that I may suffer loss in business if I use digital marketing tools	
	RB3	I fear that I might not able to reach out to my target customers if I use digital marketing tools	
	RB4	I fear that I might not be able to send the right message if I use digital marketing tools	
	RB5	I fear that systemic disorders will happen if I use digital marketing tools	

Psychological Barrier (PB)	PB1	I am more comfortable in doing promotions through traditional media rather than digital media	Johnson et al. (2018), Sivathanu (2018), Ram and Sheth (1989)
	PB2	I am more comfortable in physically interacting with customers rather than through digital platforms	
	PB3	"I have an image that digital marketing is a difficult process"	
	PB4	I do not feel safe sharing business information in digital media	
	PB5	Using digital media for promotion will expose me to hackers	
Adoption Intention	AI1	I will use digital marketing tools in future	Fishbein and Ajzen (1980); Gupta and Arora(2017)
	AI2	I can see myself using digital marketing tools in future	
	AI3	I intend to use digital marketing tools in future	

Appendix – II : Discriminant Validity – Cross Loading

	AI	PB	RB	UB	VB
AI1	0.786	0.47	0.454	0.415	0.626
AI2	0.837	0.537	0.428	0.558	0.734
AI3	0.680	0.476	0.66	0.435	0.456
PB1	0.568	0.870	0.546	0.534	0.569
PB2	0.516	0.825	0.553	0.514	0.518
PB3	0.56	0.828	0.515	0.541	0.489
PB4	0.516	0.808	0.506	0.486	0.53
PB5	0.504	0.824	0.482	0.453	0.53
RB1	0.501	0.502	0.812	0.478	0.44
RB2	0.545	0.528	0.800	0.466	0.502
RB3	0.525	0.496	0.773	0.419	0.488
RB4	0.548	0.535	0.839	0.47	0.477
RB5	0.531	0.478	0.830	0.449	0.478
UB1	0.466	0.442	0.428	0.777	0.473
UB2	0.496	0.497	0.457	0.835	0.454
UB3	0.505	0.529	0.491	0.838	0.514
UB4	0.542	0.538	0.478	0.877	0.539
UB5	0.539	0.525	0.486	0.833	0.537
VB1	0.656	0.533	0.463	0.511	0.828
VB2	0.578	0.511	0.437	0.525	0.786
VB3	0.615	0.492	0.482	0.41	0.767
VB4	0.701	0.542	0.497	0.52	0.841
VB5	0.679	0.503	0.512	0.501	0.844

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USING ONE-STOP E-COMMERCE PLATFORMS FOR BABY PRODUCT PURCHASES: INSIGHTS ON GENERATION Y IN MALAYSIA

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ABSTRACT

This study focuses on technological and selected psychological factors predicting the use of one-stop e-commerce platforms among Generation Y parents in Malaysia to purchase baby products. These platforms offer great convenience for parents as they can purchase almost anything at any time on one platform. Nevertheless, purchasing baby products is different because parents often prefer to physically inspect baby products and directly interact with the sales representatives for clarifications and assurance. Hence, the decision to use the one-stop e-commerce platforms rely on the parents' confidence of the platforms. Generation Ys, now entering parenthood, has been found to be the largest contributor to the revenue of e-commerce platforms. Therefore, factors predicting their acceptance of the one-stop e-commerce platforms for baby product purchases is important for the platforms. The Technology Acceptance Model was employed in the study, incorporating the two main technology-related factors – perceived usefulness and perceived ease of use – as well as three psychological factors namely trust, perceived risk and perceived benefits in predicting the Gen Ys' adoption of the e-commerce platforms for baby product purchases. Self-administered questionnaire was employed resulting in 200 usable responses from Gen Ys, aged between 26-40. The results indicate that all factors significantly explained Gen Y's decision to use one-stop e-commerce platforms. Perceived usefulness of the one-stop e-commerce platform technology emerged as the most predictive factor and thus should emphasised by operators in fine-tuning their platform. Perceived risk negatively predicts purchases as hypothesized, with concerns on inability to inspect products emerging as the key issue.

Keywords: Technology acceptance model, e-commerce purchasing platform; online shopping; baby products; Generation Y; millennials.

1. INTRODUCTION

Purchasing baby products is a sensitive and involving activity as babies are extremely sensitive and vulnerable. Parents shows extra care when purchasing baby products including toys, food, and clothes, to ensure quality, safety, and hygiene for their babies (Mathuthra & Latha, 2016; Pradeep & Arivazhagan, 2021). Purchasing baby products at physical stores allows parents to inspect the products, check the labels and ask the salesperson directly on any concerns. On the other hand, purchasing baby products on one-stop e-commerce platforms limit these actions due to the remote nature of the transactions. Although past studies suggest that brand factors such as brand authenticity and brand

attachment play important roles in influencing consumer purchases (Arya et al., 2018; ,2019, 2021), in the context of one-stop e-commerce platforms there have been many reports of counterfeit and fake brands being sold to unaware customers, particularly in developing countries (Manchanda & Lomo-David, 2021). Therefore, parents must have confidence on the integrity of the one-stop e-commerce platform itself and the participating retailers in the platform in ensuring that the transactions are secure, and the brands are safe, authentic and are of high quality for their babies. Past studies on online baby products purchases have addressed e-commerce website factors (Pradeep & Arivazhagan, 2021), recent sales models of specific baby

product brands (Pandir, et al., 2020) and baby product brand perceptions (Mahuthra & Latha, 2016). There have yet a study to explain the technological factors and psychological factors in predicting the decision to use one-stop e-commerce platforms (as opposed to e-commerce platform of baby product brands), such as Taobao.com, Lazada.com and Shopee.com, for baby product purchases among Generation Ys. In this present study, one-stop e-commerce platform refers to intermediary platforms that connect customers and retailers. Generation Ys (Gen Y), or sometimes referred as millennials, are those who were born between the year 1981 and 2000 (Lissitsa & Laor, 2021).

Gen Ys have been postulated to define and shape the direction of the future global industries (See-Yan, 2018). According to a survey, Gen Ys made the highest monthly online purchases averaging at 5.3 times, followed by Gen X at 4.9 times and Baby Boomers at 3.7 times (Berthiaume, 2019). Not only that the Gen Ys dominate the online population, but they are also more familiar with e-commerce transactions than older generations (Muda, Mohd, & Hassan, 2016). They have high purchasing power and strong proclivity for technology; their intense use of online shopping platforms is changing the rules of the retail sectors (Sullivan, 2019).

Nielsen (2015) reported that the growth in the baby food and diapers market has increased significantly across 60 countries and is expected to continue due to the growing middle class, and the increasing female participation in the work force. With many of the Gen Ys entering parenthood, they have now become a lucrative market for baby products. For instance, in 2017 Gen Y constitute 90% of new parents in the US (United States) (Pooja Biraia Jaiswal, 2019). Their spending habits are now shifting towards baby care and family planning categories (Nielsen, 2018). It has been found that 87% of the Gen Y parents purchase baby products online (Christiana, 2017). Gen Y parents show great interest in their children's well-being, and they have the financial capability, digital connection, and the technosavviness to make informed decisions about the best products or services for their children (Nielsen, 2018). Surprisingly, compared with the average household, the Gen Ys are looking

less for sales deals (Nielsen, 2018); that is, they choose value over price. Similarly, Agrawal (2018) shows that price emerged as the lowest predictor for Gen Ys intention to shop online. Based on these backgrounds, Gen Ys is a compelling cohort to study given their domination of the baby product market as well as their prominence in the e-commerce platforms. They also have unique characteristics that distinguish them from other generational cohorts in terms of their online behaviours as well as other predilections in consumption. Understanding factors predicting their acceptance of the online platform in purchasing baby products will help e-commerce platforms fine-tune their marketing communication efforts in targeting the Gen Ys.

To provide some preliminary insights, this paper investigates factors predicting the Malaysian Gen Ys' decision to use one-stop e-commerce platforms for baby products. In Malaysia, data from United Overseas Bank (Malaysia) Private Limited indicated that for the first six months of 2016, card members between the ages of 26 to 35 have increased their credit card spending by 26% due to their fondness for online shopping (United Overseas Bank, 2016). They spent 1.4 times more on online purchases compared to other generational cohorts (United Overseas Bank, 2016). Chief Executive Officer (CEO) of Lazada Malaysia explained that diapers sold on Lazada accounted for 4%-5% of all diapers sold in Malaysia in 2016 and further grew to 10% in 2018 (J&T Marketing Team, 2020). It is hoped that this study will contribute towards a more nuanced understanding of one-stop e-commerce platforms acceptance in the context of Gen Ys, baby products and from a developing country in the Southeast Asia.

This study employs the Technology Acceptance Model (TAM) as a lens in predicting factors predicting Gen Ys' decision to use one-stop e-commerce platform. Past studies have employed TAM to explain the use of diverse online platforms for diverse types of target groups and usage contexts (e.g., Khan & Magd, 2021; Ngah et al., 2021; Nijhawan & Dahiya, 2020; Panjaitan et al., 2019; Wei et al., 2018). In general, embracing e-commerce platforms relates to the consumers' perceived usefulness of the technology and how easy it is to use the technology (Fedorko

et al., 2018). It requires a certain level of knowledge and skills on the part of the consumers to enable them to navigate the platform effectively and appreciate the usefulness of the technology. Notwithstanding, considering the numerous fraud cases, fake products and proliferation of various e-commerce platforms, the other key consideration in accepting a platform is the consumers' confidence that the platform is trustworthy, not risky and that it offers benefits. Therefore, in addition to the two main variables of TAM – perceived usefulness of technology and perceived ease of use of technology, – three psychological variables namely perceived risk, trust and perceived benefits are included to predict Malaysian Gen Ys' decision in employing e-commerce platforms to purchase baby products.

2. LITERATURE REVIEW

Baby Products and Gen Y Online Consumption

The baby product market is growing rapidly, comprising of various sub-segments including skin care, baby food and toys. It is a sensitive product category as it dedicated to a highly vulnerable group of product users – babies are sensitive and require extra care when it comes to ingredients and product functions (Mahuthra & Latha, 2016; Pradeep & Arivazhagan, 2021). Baby products purchases are also considered as high involvement in that parents want the best for the wellbeing of their babies (Mahuthra & Latha, 2016).

On e-commerce platforms, the baby care market is one of the fastest growing categories compared to other categories including electronics and fashion. For instance, Lazada, a one-stop shopping platform considers baby products as an upcoming trend, with purchases surging in 2018. Lazada has recorded an average growth of 200% for the baby care category and it is expected to grow even further (DKSH Management Ltd, 2018). In fact, 19% of Southeast Asian consumers have purchased baby diapers through the e-commerce platforms, and 17% purchased baby foods (Ruchipha Thakral, 2017).

Despite the growing online market for baby products, there has been a dearth of research that can elucidate consumers' purchase decisions on one-stop e-commerce platforms. Fuentes & Brembeck (2016) focuses on

message framing of baby food in web marketing and illustrated the roles of message framing in appealing to mothers who are striving for ideal parenting. While the experimental study was important in highlighting the sensitive and involving nature of the baby product consumption, it does not explicate purchase decisions on e-commerce platforms.

Pandir and Oktay (2020) offer interesting insights on purchase behaviour of baby products on the e-commerce platform, but they have only focused on subscription-based platforms of specific baby product brands. Their focus was on understanding the attitude and intention of mothers towards the subscription models in those platforms. Pradeep and Arivazhagan's (2021) study is highly relevant to this present study as it explains factors that influence online purchase intention of baby products. Through an exploratory factor analysis, two factors emerged in relation to online purchase intention namely website design factors and trust. Both were found to be significant in predicting online purchase intention. Although the study did not focus on one-stop e-commerce platform or on Gen Ys, it provides compelling support in investigating technological factors and confidence factors that are proposed in this present study. Therefore, this present study extends Pradeep and Arivazhagan's (2021) study by applying TAM as the research framework, and incorporating trust, perceived risks, and benefits as factors to explain consumers' confidence on the one-stop e-commerce platforms that they use.

Gen Y parents have been found to buy more baby care products than the norm (Nielsen, 2018). Dubbed as generation of researchers (Nielsen, 2018), Gen Ys tend to do a lot of fact finding to find the best value for the products that they purchase and are more inclined to trust friends and the social media (Nielsen, 2018). Benefits of one-stop e-commerce platforms such as convenience are significant as they meet the lifestyle and requirements of the Gen Y consumers, whereby two out of three parents mentioned that they try to compress as much as they could into their daily routine (Global web index, 2017).

Gen Ys feel at ease with technology and mobile usage and thus are consumers that e-commerce businesses should target (Prasad et al., 2019). According to the report in Salesfloor (2020), 90% of Gen Ys search the internet for the product reviews and most will be influenced by the reviews in deciding on product purchases. Furthermore, the same report indicates that 68% of the Gen Y consumers agree that social media postings have strong influencing power while 84% stated that the content online has some influence on what they want purchase.

Growing up in the internet era, Gen Ys have a strong understanding of the risks but nevertheless trust online retailers and use e-commerce platforms to fulfil utilitarian motives (Agrawal, 2018). It is also argued that their tendency to conduct a lot of research in their purchases, makes Gen Ys more confident to purchase baby products online even though it is considered a sensitive product category and highly involving purchase activity.

3. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Technology Acceptance Model

The Technology Acceptance Model (TAM) has been widely used in research to predict individual's acceptance of information technology including those pertaining to e-commerce (e.g., Alzubi et al., 2018; Fedorko et al., 2018; Koksalmis, & Gozudok, 2021). TAM is based on the postulation that social behaviour is motivated by the attitude and intention to perform (Davis, 1989).

TAM has two important variables which have impact on behaviour in usage and acceptance of technology – perceived usefulness and perceived ease of use (Davis, 1989). Past studies have included other factors in the TAM model thus extending the model with new variables including perceived risk, trust, social influence, and other variables, depending on the context of the research.

4. Perceived usefulness

According to Davis (1989), perceived usefulness refers to the *“degree to which a person believes that using a particular system would enhance his or her job performance”*. Users must believe that their performance will improve by using technology. In the e-commerce platform context, perceived

usefulness refers to the degree to which a consumer believes that the platform will increase their purchasing effectiveness in the sense of time consumption and convenience (Thắng & Hương, 2017). One-stop e-commerce platforms is useful when it comes to doing pre-purchase research as it allows consumers to check reviews on products, compare prices and products and get more information from the retailers when shopping for baby products. Research shows that Gen Ys are more likely to conduct online research than the general population, and more likely to check user reviews rather than checking with families or friends (Nielsen, 2018). Therefore, in the light of conducive technology offered on one-stop e-commerce platform, the following hypothesis is proposed:

H1: Perceived usefulness of technology positively and significantly influences Gen Ys' decision to use one-stop e-commerce platforms in purchasing baby products

5. Perceived ease of use

The perception towards the perceived ease of use of technology is another main variable in the Technology Acceptance Model (TAM). According to Davis (1989), perceived ease of use refers to situations where the application is easy to use without much effort. It refers to the extent to which a consumer believes that online shopping will be free of effort.

In studying user experience on e-commerce websites, Fedorko et al. (2018) found that there was a greater likelihood that consumers would utilise a website when they feel that the website was easy to use. Perceived ease of use has been found to be predictive of online shopping behaviour in both older adults (Wu & Song, 2021) and Gen Z (Nghah et al., 2021; Habeeb et al., 2021).

In the context of Gen Y, a study by Agrawal (2022) suggests that Gen Y is highly driven by ease of information search on attributes of competing products. With the technology at their fingertips, the digital native Gen Y parents are highly adept at using the e-commerce platforms (Swanzen, 2018). Based on these premises, the following hypothesis is proposed:

H2: Perceived ease of use of technology positively and significantly influences Gen Ys'

decision to use one-stop e-commerce platforms in purchasing baby products

6. Trust

Trust is crucial in the e-commerce platforms due to the limited face-to-face or physical interaction between shopper and seller (Ha & Nguyen, 2019). Hsu et al. (2014) explained that there are four types of trust which are trust on the website, trust in the online merchants, trust in the group members who provide them with information and reviews, and the trust in the intention of the whole transaction. Indeed, trust has been found to influence e-commerce platforms adoption in diverse contexts including smart healthcare system (Liu & Tao, 2022), mobile banking (Ha & Nguyen, 2019) and online food delivery services (Troise, et al., 2020).

Importantly, a study has found that trust is crucial in intermediary platforms such as in the case of one-stop e-commerce platforms because the trust in the intermediary platform translates into the trust on the sellers (Lee et al., 2018). On the other side, distrust in the intermediary negatively influences purchase intention (Lee et al., 2018). Muda et al., (2016) has found perceived trust to influence online shopping intention positively and significantly among Gen Ys. In this present study, trust is especially critical in buying baby products. As such, the following hypothesis is proposed:

H3: Trust positively and significantly influences Gen Ys' decision to use one-stop e-commerce platforms in purchasing baby products

7. Perceived Benefits

In the context of online platforms, perceived benefits refer to what consumers expect to gain from utilising the platform and how it will meet their needs (Ryu & Park, 2020; Yew & Kamarulzaman, 2020). Various studies have established significant links between perceived benefits and e-commerce platform adoption. Ryu & Park (2020) found that perceived benefits significantly predict consumers' commitment to use social media for shopping. Yew and Kamarulzaman (2020) found that perceived benefits motivate online shopping. Perceived benefits can be divided into functional and non-functional motives (Liu et al., 2013).

Convenience, product variation and quality of products are categorized under functional motives whereas anything related to social and emotional needs are considered or classified as non-functional motives ((Liu et al., 2013). Shopping convenience is an important dimension in perceived benefits because consumers that choose to shop online are actively seeking convenience (Forsythe et al., 2006). Gen Y parents prioritise convenience, especially when both parents are working (Patro, 2019). In the context of the present study, the following hypothesis is proposed:

H4: Perceived benefits positively and significantly influences Gen Ys' decision to use one-stop e-commerce platforms in purchasing baby products

8. Perceived Risk

Perceived risk refers to consumer's perceptions of the ambiguity and the potential unwanted consequences of purchasing a product or service (Ariffin et al., 2020; Park et. al, 2019). Chen and Barnes (2007) explained that perceived risk can be categorised into two types of risk, security risk and privacy risk.

For online platforms, perceived risks are elements that decreases the consumer's intent to engage with the e-commerce platform especially for online transactions that involve credit cards, mobile transactions, and personal information. Vezir Oguz (2018), found that consumers reject the motive of shopping online because they are in fear of potential risks such as the quality of the product, the reliability of the merchants, the confidentiality of their credit card information or even the delivery charges. Online privacy has been identified to be of a great concern among young adults (Sissodia & Aggarwal, 2021).

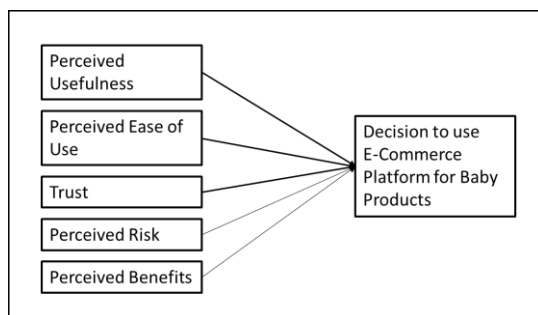
Ariffin et. al (2020) found that security risk is the most significant factor in deterring online shopping. Perceived technology usage risk has been found to be critical in services that are sensitive in nature, such as in online doctor consultation (Goyal et al., 2021). Importantly, Melovic et al. (2021) found that perceived risk and barriers have the strongest impact on Gen Ys online shopping behaviour. Baby products are categorised as high-involvement products and therefore perceived risk can be regarded as a key driver (Pandir et al., 2020). Risks in

baby product purchases can be associated not only with the functional risks but also with symbolic risks such as being perceived as unfit parents if good choices were not made (Fuentes & Brembeck, 2016). Therefore, the following hypothesis is offered:

H4: Perceived risks negatively and significantly influences Gen Ys' decision to use one-stop e-commerce platforms in purchasing baby products

Figure 1.0 presents the conceptual framework for this study indicating the relationships between the dependent variable, decision to use one-stop e-commerce platforms for baby products, and five independent variables, namely between perceived ease of use, perceived usefulness, trust, perceived benefits, and perceived risk.

Figure 1.0 Conceptual Framework



9. METHODOLOGY

Participants

The population of interest in this study is the Malaysian Gen Ys. Purposive sampling was employed to choose respondents who have been using one-stop e-commerce to purchase baby products among Gen Ys who were between 24-39 at the time of data collection. A filter question was used in the questionnaire to identify the suitable participants.

Questionnaire development

The questionnaire for this study was developed based on similar previous studies (Arora & Aggarwal, 2018; Davis, 1989; Gefen et al., 2003; Moshrefjavadi et al, 2012).

The questionnaire consisted of Section A (Participants' profile and the filter question), Section B (Technological and Psychological factors) and Section C (decision to use one-stop e-commerce platform). Section B and C were assessed on a 5-point Likert Scale ranging from 1 *strongly disagree* to 5 *strongly agree*.

A pilot test was conducted involving 30 participants of the same population used in this study. A reliability test using Cronbach's alpha revealed that the value of all the variables were above 0.7, thus confirming the reliability of the instrument. No negative feedback was received from the participants in the pilot test.

Data collection procedure

An online questionnaire was developed and distributed through online platforms. The questionnaire was written in English. Participants were informed of the intention of the study and that participation is entirely voluntary and will be kept confidential. Data were collected within a span of three weeks in November 2020. A total of 200 completed questionnaires were returned. The subsequent data analyses were conducted using a series of descriptive analyses and multiple regression in testing the hypotheses.

RESULTS AND FINDINGS

Profile of respondents

As shown in Table 1, 25% of the participants were male 75% were female. The participants were categorised into three age groups with the most being 31-35 years old (49%), followed by 26-30 years old (31%), and 36-40 years old (20%); therefore, most of the participants are in the mid-range within the Gen Y population.

The frequency of online shopping for baby products can be categorized into few sub-segments. The majority of the respondents, 47%, mentioned that they shop at least once a month and 36.5% of the respondents shop less than once a month. Additionally, 4.5% of the respondents mentioned that they shop at least once a week whereas 12% shop at least once every 2 weeks. The results indicate that Gen Y consumers are frequent online users, mostly purchasing at least once a month on online shopping platforms.

The majority of the respondents (69.5%) stated that they shop baby products online through Lazada platform whereas 55.5% shopped in Shopee. Only 7% of the respondents shopped in 11Street and 15% respondents shopped at Taobao. The minority, 0.5% and 1.5% of respondents shopped in AliExpress and other e-commerce platforms, respectively.

Table 1 Profile of Respondents

Variables	Frequency	Percentage (%)
Gender		
Female	150	75.0
Male	50	25.0
Race		
Malay	61	30.5
Chinese	112	56.0
Indian	27	13.5
Age		
26-30	62	31.0
31-35	98	49.0
36-40	40	20.0
Frequency of online shopping		
Once a week	9	4.5
Once every 2 weeks	24	12.0
Once a month	94	47.0
Less than once a month	73	36.5
Online Platform		
Lazada	139	69.5
Shopee	111	55.5
11Streets	14	7.0
Taobao	30	15.0
Ali express	1	0.5
Others	3	1.5

Reliability analysis and Descriptive Analysis

Table 2 presents the reliability and descriptive analyses for the factors that are predicted to influence decisions to use the one-stop e-commerce platform for purchasing baby products. The reliability analyses for all the

constructs show Cronbach's alpha values ranged from 0.705 to 0.884, demonstrating that all the constructs were internally consistent and had acceptable reliability values.

Table 2 Descriptive Analysis

Constructs	Mean	Standard Deviation	Cronbach's Alpha
Perceived Usefulness of Technology	4.34	0.453	0.705
The internet improves my performance	4.14	0.721	
The internet makes it easier to search for and purchase	4.01	0.786	
The internet enhances my effectiveness in searching and purchasing	4.17	0.777	
Using the internet to acquire baby product allows me to do my shopping more quickly	4.13	0.739	
The internet increases my productivity when searching for and purchasing baby products	4.19	0.817	
Perceived Ease of Use of Technology	4.31	0.544	0.708
The process of buying baby products online is clear and easy to understand.	4.10	0.702	
The internet is easy to use in shopping for baby products	4.06	0.768	
It was easy for me to become skilful in using the internet to buy baby products	4.33	0.634	

Trust	4.15	0.503	0.847
I trust the information provided by the online website(s) that I use to purchase baby products	4.00	0.805	
Promises made by online merchants are likely to be reliable	4.05	0.807	
The baby products I received matched the description on the website	4.25	0.663	
The delivery service of my online baby products purchases matched the description on the website	4.19	0.719	
I expect the online baby products merchants are well intentioned	4.04	0.732	
I expect that online baby products merchants put customer's interests before their own	4.00	0.754	
The website I used to purchase baby products shows a high level of professionalism in their transactions	4.11	0.707	
The website I used to purchase baby products is fair in its use of private user data during transaction	4.10	0.706	
Overall, the website I used to purchase baby products is worthy of trust	4.19	0.653	
Perceived Risk	4.01	0.497	0.884
I feel that my credit card details may be compromised and misused if I shop online to purchase baby products	3.90	0.829	
I am concerned that baby products from e-commerce websites offering cheaper prices are probably nearing their expiry date	3.94	0.863	
It is hard to judge the quality baby products over the internet	4.17	0.703	
I sometimes fear that I might not receive the baby products that I ordered online	3.99	0.805	
I am concerned that I cannot get to examine the baby products when I shop online	4.26	0.667	
Perceived Benefits	4.26	0.491	0.710
I get broader selection of baby products while shopping online	4.14	0.685	
I can get good baby products information online	4.01	0.773	
I can shop baby products whenever I want when I shop online	4.24	0.642	
Baby products that are offered online are of high quality	4.08	0.743	
Purchasing online allows me to get baby products at a cheaper price	4.28	0.659	
Decisions of Use of One-stop E-Commerce Platform	3.80	0.63	0.805
Many of my baby product purchases are through one-stop ecommerce platforms	3.66	0.774	
I prefer purchasing baby products on one-stop e-commerce platforms rather than traditional stores	3.67	0.840	
I prefer purchasing baby products on e-commerce platforms	4.05	0.721	
I consider one-stop ecommerce platforms first when purchasing baby products	3.81	0.847	

Among the factors, respondents rated Perceived Usefulness of technology (PU) the highest, followed by Perceived Ease of Use of technology (PEU), Perceived Benefits (PB), Trust (T) and Perceived Risk (PR). For the respondents, technology has been most useful in increasing their productivity in their product search process. They believed that they have become skilful in using the internet to buy baby products with the ease of use of

technology. The results also show that respondents want to take advantage of the benefits of the online platform, especially when it comes to pricing as they believe it is cheaper than the pricing in brick-and-mortar outlets. Furthermore, the results indicate that many of the respondents trust the online websites with only few who are unsure and have a low level of trust. Of all the indicators, perceived risk recorded the lowest level of

agreement. The respondents are most concerned about not being able to examine the baby products. However, the level of concern over misuse of their credit card details is low.

Testing of hypotheses

Table 3 presents the outcome of the regression analysis performed to test the relationships between the five factors that were predicted to influence the Gen Y parents in purchasing baby products online. The model indicates the Adjusted $R^2=.656$ and $p<0.000$. It has been suggested that for research focusing on marketing issues, R^2 values of 0.75, 0.50, or 0.25 for endogenous latent variables can, as a rough rule of thumb, be respectively described as substantial, moderate, or weak (Hair et al. 2011; Henseler et al. 2009; Sarstedt, 2017). For this study, the results are considered moderate, with the five independent variables (perceived usefulness of technology, perceived ease of use of technology, trust, perceived risk, and perceived benefits) explaining 65.6% of the variations in the dependent variable.

baby products. $H2$ is **supported**. Based on the results, the path coefficient value was 0.160 and $t=4.084$ ($p<0.001$). The path coefficient has shown that the perceived ease of use of technology positively and significantly influence Gen Y online purchasing decision on baby products.

Next, $H3$ predicted that Trust positively and significantly influences online purchasing decision on baby products. $H3$ is **supported**, with path coefficient 0.118, $t= 3.454$ ($p<0.001$).

$H4$ predicted that Perceived Risk negatively and significantly influences online purchasing decision on baby products. $H4$ is **supported** with a path coefficient value of -0.336 and $t=-6.364$ ($p<0.001$). Perceived risks such as credit card being misused, inability to check the quality of the products and risk on the retailer's fraud have been a concern for the Gen Y consumers; these concerns are supported in this study.

Table 3 Summary of the Multiple Linear Regression

		B	<i>t</i>	<i>p</i>	<i>r</i>	
Perceived Usefulness of Technology		0.351	6.753	.000	.796	
Perceived Ease of Use of Technology		0.160	4.084	.000	.700	
Trust		0.118	3.454	.000	.560	
Perceived Risk		-0.336	-6.364	.001	-.788	
Perceived Benefits		0.169	4.370	.000	.694	
R^2	0.7056					
Adjusted R^2	0.656					
F	43.521					
Sig.	.000					

N= 200 * $p<.05$, ** $p<.000$

Dependent: Gen Y use of e-commerce for purchasing baby products

$H1$ predicted that perceived usefulness of technology positively and significantly influences Gen Y online purchasing decision of baby products. $H1$ is **supported** as the result shows a positive and significant relationship with a path coefficient value of 0.351 and $t=6.753$ ($p<0.001$).

$H2$ predicted that Perceived Ease of Use of Technology positively and significantly influence Gen Y online purchasing decision on

Finally, $H5$ predicted Perceived Benefits positively and significantly influences Gen Y online purchasing decision on baby products. $H5$ is **supported** with a path coefficient value of 0.169 and $t=4.370$ ($p<0.001$). The results have illustrated that convenience, variety of choices, better quality and cheaper prices do play significant roles in influencing Gen Y consumers in purchasing baby products online.

9. DISCUSSION AND CONCLUSION

One-stop e-commerce platforms are becoming increasingly popular and are evolving to meet

the changing needs of the consumers. For Gen Ys, the one-stop e-commerce platforms have become synonymous with shopping and ubiquitous in the life of many Gen Ys. Importantly, the Gen Ys are driving the growth in online shopping (Nielsen, 2018; Jain et al., 2021, Islam et al., 2020). As they enter parenthood, it has been noted that their habits are shifting, spending more on baby care and family planning categories (Nielsen, 2018). They have been found to spend more than previous generations on easy and convenient products for families (Nielsen, 2018). With many one-stop e-commerce platforms emerging today, it is important to understand the Gen Y decision on using the one-stop e-commerce platforms especially for baby products and to know which is the most influencing factor towards their usage.

In the present study, the findings suggest that Malaysians Gen Ys prefer to shop on the Lazada.com platform, followed closely by Shopee.com. Both Lazada.com and Shopee.com are two of the Southeast Asian's biggest one-stop e-commerce platform (Easy2Digital.com, 2022). In relation to the concerns over the issue of trust and risk as indicated in the findings of this study, Shopee.com provides a Shopee guarantee that protects customers from fraudulent and fake or defective items while Lazada provides Lazada Payment Protection that protect and covers customers from unauthorized transactions.

In the study, 47% of the participants indicated that they shop online at least once a month for baby products, followed by 36.5% who shopped less than once a month, 12% shopped at least once every 2 weeks and lastly, 4.5% purchased baby products at least once a week. These numbers are reflective of a global survey in 2016, whereby it was found that 60% of all consumers are buying online monthly or more frequently, and as for the Malaysian market, 48% of the consumers purchase online at least once a month (Eugene Halingam, 2016).

Notwithstanding, a closer look on the Gen Ys decision to use e-commerce platforms for the purchase of baby products suggest that they are not highly enthusiastic in using the platform, with their rating charting only at mean of 3.80 on the Likert Scale. This

hesitancy could stem from parents' concerns over the risk of purchasing over the e-commerce platform which is evident from the negative relationship that was found between perceived risks and decision to use e-commerce platforms for baby product purchases.

Theoretical Implications

Although previous studies provide mixed results about the impact of perceived usefulness of technology on the online shopping decision, the present study confirms the importance of this factor in terms of online shopping especially in relation to Gen Y and baby products. The findings suggest that Gen Y consumers think that the usefulness of technology on the one-stop e-commerce platforms play a significant role and is the most predictive factor on their decision to use the one-stop e-commerce platform in purchasing baby products. They find that the e-commerce platforms help them in their search and purchase of products and allow them to do their shopping quickly.

The findings also show that that Gen Y consumers feel that the ease of using internet can improve their online purchasing process. Gen Ys, recognized as digital natives, are adept at moving effortlessly within and across these e-commerce platforms (Nielsen, 2018). As such, they find it easy to understand the technology on the platform and to skilful in using the platform to buy baby products. As shown in a study by Hanjaya, Kenny and Gunawan (2019), the ease of usage of technology give the best online shopping experience and significantly influence the purchase intention.

Next, trust was found to positively and significantly influence the decision to use the e-commerce platforms in purchasing baby products. Trust is imperative as it helps customers overcome perceptions of uncertainty and risk and engage in trust-related behaviours with the e-commerce platforms such as the sharing of personal information and revealing credit card information. With the advancement of technology, consumers can purchase and transact through online systems with relative ease, making it an increasingly familiar part of the shopping experience for many consumers. Thus, customers' involvements in online

purchasing have become an increasingly important trend with trust becoming less of an issue.

Based on the results, as predicted perceived risk was found to negatively influence the decision to use the e-commerce platforms to purchase baby products. According to Weeger et al. (2018), privacy risk, security risk and safety risk are the recent phenomenon of concern for consumers and other stakeholders. However, the advancement of technology can minimize the risks that might be faced by the consumers during online purchasing. The findings in this study, however, showed that Gen Y consumers are more concerned with the inability to examine the baby products when they shop online. In line with the study by Arjun Gupta et al. (2013), online shopping does not give consumers the opportunity to touch and handle the goods. Consumers are unable to physically examine the products, yet many consumers do purchase online because they did their research in local retail stores then purchased online for lower price and delivery.

The independent variable perceived benefits showed a positive and significant influence towards Gen Y online purchasing decision for baby products. Chakraborty (2017) found that the reasonable cost of the product is the most important factor affecting the consumer purchase decision at the time of online shopping. Similarly, in this study, the Gen Y consumers were found to be particularly interested in getting a decent price online. As parents become more knowledgeable, they will seek new products, follow trends, and explore cheaper prices before purchasing the products. Additionally, online shopping offers busy parents extendable shopping hours and a wider assortment of products which creates convenience for them (Ruchipha Thakral, 2017).

Practical Implications

There are several practical implications that can be deduced based on the findings of this study. Firstly, this study offers the e-commerce industry preliminary insights on factors contributing towards Gen Y's decision to use the one-stop e-commerce platforms such as Lazada.com and Shopee.com. With these insights, e-commerce platforms could plan for specific actions and apply to plan the

appropriate techniques online in targeting the Gen Y parents. In terms of perceived ease of use, online retailers or marketers can design websites that are more user-friendly, allowing the consumer to search, shop and process payment in the easiest viable way. As for the perceived usefulness of technology, marketers and retailers need to ensure that the website is organized in a sophisticated manner, with integrated search engines and comparison tools to support consumer in finding their best solution in a timely manner.

To encourage consumer online shopping decisions, retailers and marketers need to minimize the consumer's perceived risk. For instance, the results of this study show that respondents are more concerned when they are unable to examine the quality of the baby products if they were to purchase online. Therefore, marketers or retailers can overcome the concern of the consumers by offering a 14-day return policy if they are unsatisfied with the baby products that they have purchased. Xu et al. (2015) stated in their study on Alibaba.com that business managers should consider perceived risk as equally important as other factors that affect consumers' online purchasing decision. Besides having a return policy, marketers can offer an e-wallet payment option to reduce the perceived risk that consumers will be facing. In terms of trust, marketers and retailers can consider improving the relationship between customers through social channels, forums, or directly through the site or the "reviews and comments" section. Consumers can view the "reviews and comments" section to know more about the products. This will build trust in the quality of the products as the section is open to those consumers who have purchased the products before.

Social implications

Studying the Gen Ys in the context of their use of e-commerce platforms and as they enter parenthood provides critical insights on a generation that has been widely recognised as digital natives. As expected, the generation is at ease in using the technology on the e-commerce platform for purchasing baby products and find the technology useful. The findings suggest that for Gen Ys, the one-stop e-commerce platforms is their first stop when doing research on baby products. They are adept at reading online reviews and search for

information, and as shown in a Nielsen (2018) study, they are more likely to trust people online than friends and families. However, when it comes to risk, Gen Ys as parents, are more concern about not being able to evaluate the quality of the products for their babies than on security and privacy issues. This has likely contributed to the slight hesitancy in using the one-stop e-commerce platforms for the purchase of their baby products.

10. FUTURE SCOPE AND LIMITATION

This study has been undertaken in the hope of providing some preliminary insights on the decision to use one-stop e-commerce to purchase baby products among the Gen Ys in Malaysia. The findings in the study suggest that while Gen Y parents are in general comfortable in using the one-stop e-commerce platforms for baby product purchases, their perception is that the platform bears a certain level of risks. The remote nature of the transactions does not allow them to check on the quality of the baby products. Brand trust, brand loyalty and brand equity may likely play important roles, but the present study was limited in scope in that the brand factors were not included in the study. As such, it is suggested that future research include brand factors in relation to the one stop e-commerce platforms itself, as well as the brands of the baby products.

The present study is also limited in scope in that it only investigated one-stop e-commerce platforms. Compared to the one-stop e-commerce platforms, the e-commerce platforms of specific baby product brands may offer more assurance in the purchases of baby products. Therefore, it is suggested that future research investigate Gen Ys preference in using one-stop e-commerce platforms in comparison with the e-commerce platform of specific baby product brands.

The study has focused on the two main factors in the Technology Acceptance Model, namely perceived usefulness, and perceived ease of use of technology in investigating factors contributing to the decision to use the one-stop e-commerce platforms. While the model has been helpful in providing some preliminary insights, it is limited in that it precludes other consumer and environmental factors. As such it is suggested that future research include factors derived from other

theories such as the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2016) and the Theory of Planned Behaviour (Ajzen, 2020). These lenses will help to include more comprehensive variables such as income, social norms and educational background that may provide more extensive understanding of the phenomena.

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DOES ENVIRONMENTAL AWARENESS VIA SNSS CREATE SUSTAINABLE CONSUMPTION INTENTION AMONG THE MILLENNIALS?

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ABSTRACT

Globalization as well as digitalization is changing not only the business formats but also the environmental scenario of this planet. It is quite imperative to move the society towards sustainable consumption. As social networking sites are believed to be capable of influencing user's perspective, its role in creating sustainable consumption intention must be explored. This research, thus, explores the impact of Environmental Awareness via Social Networking Sites (SNSs) and Environmental Concerns on Green Product Purchase Intention i.e. sustainable consumption intention. It also strives to uncover reasons for and against the green consumption of millennials. A total of 300 questionnaires were administered to students and young professionals of North Indian Tier-2 cities, out of which 281 were found to be complete and relevant for the study. The data analysis was done using the IBM SPSS Statistics v25 and IBM SPSS Amos v22 to explore the impact of Environmental Awareness via Social Media and Environmental Concerns on Green Product Purchase Intention. The results demonstrate that environmental concern as well as environmental awareness via SNSs have a significant impact on green product purchase intention. The study also highlights environmental sustainability (concern) and personal consciousness as reasons for green consumption and Unavailability as a reason against it regarding millennials. Moreover, the study suggests the tested variables to be considered for theory building or modification of existing ones like Theory of Planned Behavior, Technology Acceptance Model, etc.

Keywords: Environmental Awareness, Environmental Consciousness, Purchase Intention, Green Product, Green Consumer Behavior, Sustainability, Social Media Marketing, Social Networking Sites.

Introduction

Recent times are characterized as an era of unprecedented needs and want that directly or indirectly lead to environmental degradation. To meet the needs and wants of society, the strict production processes combined with reckless consumption & disposition had been degrading the environment for long (Jain et al., 2021; Chen & Chai, 2010; Mayell, 2004). Approximately 55 billion tons of Earth's natural resources, including fossil energy, minerals, metals, and biomass, are extracted each year for meeting out different consumption requirements, which has, to date, caused a loss of around 4/5th of the world's forest cover (The World Counts, 2021). With the current consumption and production pattern, the world's consumption rate of

resources is exceeding its generation rate (Sustainable consumption and production policies, 2021).

Talking specifically about India, around one-third of the total land area is reported to be already degraded (Tripathi, 2019). It is also predicted that if air pollution continues to rise at the current rate, people would need oxygen kits to breathe by 2030 and may also cause premature aging ("What will happen if the Air Pollution Continues to Increase? | Future Prediction", 2021). The climatic change may also have an adverse effect on the GDP of countries. As per the World Bank report, the per capita GDP of select Indian districts may decline by 10% by 2050 (Padmanabhan et al.,

2019). As suggested by studies, India needs to control the harmful emissions arising out of consumption of different power sources assisting the household and the production in the economy (Pandey & Rastogi, 2019; Shearer et al., 2017; Tiwari, 2011). However, with increasing awareness about the environment, consumers and producers are becoming conscious for its protection (Xu et al., 2020; Shrinkhal, 2019; Shamsi & Siddiqui, 2017).

The improvement in consumer's attitude towards the consumption of green products is quite evident worldwide (Wang et al., 2021, Kumar & Yadav, 2021, Al Mamun et al., 2018). Even low-income households are reported to have initiated green product consumption (Al Mamun et al., 2018). Multinationals, as well as domestic units across the globe, are hence using green production as well as marketing as a tool to gain competitive advantage, maintain firm reputation, earn maximum profit, and engage their consumers and other stakeholders (Giantari & Sukaatmadja, 2021; Baah et al., 2021; Zameer et al., 2020). Even in emerging economies like India, firms adopt green marketing orientation (Chahal et al., 2014; Bailey et al., 2016).

According to the American Marketing Association, green or ecological marketing refers to "the study of the positive and negative aspects of marketing activities on pollution, energy depletion, and non-energy resource depletion" (Henion & Kinnear, 1976). This definition is narrow in scope as it focuses on a narrow range of environmental issues. Hence, Green marketing needs to be broadly defined and studied. Polonsky (1994) defines green marketing as "consisting of all activities designed to generate and facilitate any exchanges intended to satisfy human needs, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment."

It centres around executing all marketing activities while safeguarding the environment. The products which are being promoted through green marketing are known as green products. The terms "green" often refers to products, services or practices that allow for economic development along with conserving for future generations or the product which has less environmental impacts and is less detrimental to human health as compared to

other products. Consumers' engagement also plays a prominent role in promoting and consuming green products (Mark & Law, 2015) (especially millennials). To promote green products and increase their consumption among millennials, it is imperative to study their behavior to analyse their consumption pattern. It is the marketer's role to redirect its strategies to influence the consumers for promoting environment friendly consumption among them (Ottman, 1998). In fact, even for researchers "Green products" is a trendy area in the present era. Many aspects of Green product/consumerism/ marketing/ behavior are being studied worldwide (Saleem et al., 2021; Nguyen & Nguyen, 2020; Bhardwaj et al., 2020, Kumar, 2016; Fraj & Martinez, 2006). However, a major chunk of such studies is carried on in the western part of the world, creating a gap in terms of studies in Asian countries (Lee, 2014; Mark & Law, 2015; Shamsi & Siddiqui, 2017; Poonia et al., 2021).

Some studies have been carried out in the Indian context too (Adnan et al., 2017; Narula & Desore, 2017; Uddin & Khan, 2016; Kumar, 2016); however, there is a lack of substantial research exploring the impact of environmental awareness created through SNSs and environmental concern on green product purchase intention concerning Millennials (Prigita & Alversia, 2022) Keeping in mind the said gap (lack of relevant research for the emerging economies, lack of research studying the hypothesized relationships and lack of study considering the millennial population), the present study is undertaken to explore this research domain. The study of consumer behavior would enable marketers to formulate better marketing mix strategies, advertisers & broadcasters to develop influential communication messages and governments to devise effective policies for green products (Gomes, Jeive, & Lim, 2020).

The present study thus enquires about the relationship of environmental concern and its awareness with green product purchase intention among the millennials, along with discovering factors motivating and demotivating them for such consumption. The study focuses on millennials as young consumers' behavior is quite different from the older consumers (Grace, Zaiton, & Cheuk, 2018). Moreover, digitalization is on the rise

worldwide which is not only transforming processes into digital form but also connecting people rapidly through social networking (social media) sites (Saxena, 2021). The exposure to social networking platforms can have a strong influence towards shaping up consumer's response to products, brands, promotion campaigns and so on (Syed-Abdul et al., 2016; Tran, 2017; Jawaid & Rajadurai, 2021). Thus, the role of SNSs cannot be ignored when studying young population's behavior. Thereby, the study extends the enquiry examining the impact of environmental awareness via SNSs and environmental concern on green product purchase intention.

Most of the previous researches on green product intention have utilized different theories of intention like TRA, TPB, TAM, etc which does not incorporate environmental awareness and concern as predictors of intention (Prigita & Alversia, 2022; Xu et al., 2020). The study's findings will thus open a new gateway for academia in the form of association of the studied constructs. Furthermore, the variables associated can also be used by future researchers to model advance theoretical framework for studying the consumer behavior concerning green products as well as green marketing. Specifically, Environmental awareness, environmental concern and role of SNSs can be used to extend TRA, TPB, TAM or other alike theories for determining the behavioural intention of individuals. Moreover, the industry practitioners and managers can also benefit from the research outcomes. It may help them formulate better strategies to reach out to their target consumers, specifically the young consumers, i.e., Millennials.

LITERATURE REVIEW

Green Products

Green Products are environment friendly products that cause no harm/reduced harm to the environment compared to their conventional counterpart products. Berchicci & Bodewes (2005); Fraccascia, Giannoccaro, & Albino (2018); Shamsi & Siddiqui (2017); Al Mamun et al. (2018); Saleem et al. (2021) also opined that Green Products could lower environmental risk and contribute towards a better future. However, many different aspects are associated with the term 'green,' namely ecological, political, corporate social

responsiveness, fair trade, conservation, new-consumerism, and sustainability (McDonagh & Prothero, 1996).

The term "green" can also be associated with sustainability, conservation, non-profit, ecological, humanitarian, etc. (Garg & Sharma, 2017). Consumers are gradually shifting their consumption towards green products with increased environmental awareness and concern among the masses (Chen & Chai, 2010; Cherian & Jacob, 2012). Even in low-income households, green product consumption picks up the pace (Al Mamun, 2018). The development and export of green products are even found to impact a country's GDP positively (Fraccascia et al., 2018).

Environmental Awareness

Environmental awareness is indeed an important variable that would influence consumer behavior towards green products. Environmental awareness can be understood as the level of knowledge or literacy about the concepts and phenomena related to the environment and its condition (Lira et al., 2022; Ham et al., 2016; Mark & Law, 2015; Yeung, 2004). Many researchers have argued in favour of awareness bearing a significant effect on consumer behavior (Shah et al., 2021; Stöckli & Dorn, 2021; Rachmawati et al., 2020; Liao & Chu, 2013; Lee et al., 2019). Even for green products, it influences consumer behavior (Zhang et al., 2019). It has a positive effect on attitude towards green products (XU et al., 2020; Al Mamun et al., 2018), which subsequently impacts green product consumption and purchase intention (Al Mamun et al., 2018). EA can be so powerful that it may stimulate willingness to pay more, subjective norms, and perceived behavioural control among the consumers (Xu et al., 2020; Singh & Singh, 2015). It may even moderate the consumption of products based on the manufacturer's/firm's sustainability exposure (Rustam et al., 2020). EA is growing rapidly and thus has started influencing consumer behavior (Chen & Chai, 2010) so much that it is opening opportunities for companies to use green marketing as a strategy to increase their sales volumes (Singh & Singh, 2015). Environmental awareness among the consumers is, thus, an essential factor to be kept in mind by the marketers to formulate effective marketing strategies for green

products (Shamsi & Siddiqui, 2017; Sheikh et al., 2014).

Environmental Concern

Consumer's environmental concern can be another essential factor to be considered by the marketers of green products. It may refer to consumers' emotional responses and empathy towards the elements of the environment and thoughtfulness about its problems (Mark & Law, 2015; Milfont & Gouveia, 2006; Yeung, 2004). The environmental values of the consumers that would shape up the concern influence green consumption in a significant manner (Wang et al., 2021). Consumers are consistently developing environmental concerns due to increasing awareness which is taking consumption of green products to heights (Chen & Chai, 2010). To promote the consumption of green products, governments across different countries provide subsidies for motivating the usage and consumption of specific green products. However, environment-friendly consumption behavior is triggered more based on values, concern, and self-consciousness than government schemes or promotions (Gadenne et al., 2011).

The level of EC among the consumers shapes up their behavior towards the companies' marketing activities (Shamsi & Siddiqui, 2017; Mark & Law, 2015; Cherian & Jacob, 2012). Thus, the companies must focus on the consumers' environmental concerns and include the sustainability aspect in their products and businesses (Rustam et al., 2020).

Social Networking Sites

Social Networking Sites (or Services) are common virtual platforms where users can mark their virtual presence and interact with people across globe sharing common interests and can also build communities to discuss & share content of common interest (Chadwick, 2012; Griffiths et al., 2014). It has become such an integral part of youngsters' life that their day isn't complete without checking notifications and feed on their SNSs (Agarwal & Mewafarosh, 2021). Its usage is so actively taken up by the youths that it may become a concern for mental wellbeing of the users (Griffiths et al., 2014). It is this addiction and popularity of SNSs that opens up opportunities for marketers to target different segments (Constantinides et al., 2013). However, SNSs usage addiction should not

only be linked to its negative perspectives. Studies suggest that SNSs can be a great tool for bringing out a larger positive change in the society. In fact, it can be very effectively used for promoting health practices among the masses at even individual levels (Syed-Abdul et al., 2016). It can be a great tool to reach out to the target population (Hanaysha et al., 2021) at individual level with personalized messages as well as a source of knowledge sharing too (Sharma, 2021). Researchers found that young population uses SNSs quite regularly, particularly Facebook, for collecting news and information, search facts and be aware of environmental issues too (Rahim & Jalaladeen, 2016).

Purchase Intention

Intention is a very significant factor to be studied when exploring behavior as the former is believed to be very strong predictor of the latter (Sharma et al., 2021; Sharma et al., 2022a, 2022b). Theory of Reasoned Action determines the behavior of individuals on the basis of their intention (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). The theory argues that a person's attitude as well as subjective norms define his/her behavioural intention which in turn is a quite strong predictor of actual behavior (Fishbein & Ajzen, 1975; Netemeyer et al., 1993). TRA has been extensively used by previous researches to predict the intention of consumers for various products, technologies as well as services (Atal et al., 2022, Ezati Rad et al., 2022; Roh et al., 2022; Rahmayanti et al., 2021; Mishra et al., 2021; Jhamb et al., 2021). However, TRA was later thought to be narrow in its approach. Thereby, a new theory, Theory of Planned Behavior, was formulated (Ajzen, 1985).

TPB incorporated behavioural control as an additional predictor to intention that claimed to make the theory more adequate to define the behavior of the individuals (Ajzen, 1985). Similar to TRA, TPB is also popularly used to explain the intention of individuals (Elahi et al., 2022; Xu et al., 2020; Judge et al., 2019; Khan et al., 2019; Carfora et al., 2019; Razaei et al., 2019). Additionally, researches have also used Technology Acceptance Model (Davis, 1989) for measuring behavioral intentions. TAM works on the relationship of attitude-intention-acceptance for defining the behavior of individuals towards a technology (Davis, 1989).

The models of measuring intention have been used by most of the previous studies (Ezati Rad et al., 2022; Roh et al., 2022; Rahmayanti et al., 2021; Rashid et al., 2022; Mishra et al., 2021; Xu et al., 2020; Judge et al., 2019; Khan et al., 2019; Carfora et al., 2019; Razaei et al., 2019) with integration of some or the other factors. Based on the significance of Environmental Concern & Awareness (Xu et al., 2020) and the importance of SNSs in creating awareness, we propose to test these variables to predict the purchase intention of green products.

Hypotheses Development

Environmental Awareness via SNSs & Green Product Usage/Intention to use

Environmental awareness can be described as knowing the condition of all the elements that form our natural surroundings. With growing Environmental Awareness, the public started demanding its safeguard measures, and their concern over its degradation also increased (Letcher & Vallero, 2011). Undoubtedly, Environmental Awareness is positively changing the behavior of the consumers in favour of eco-friendly or green products (Rustam et al. (2020); Al Mamun et al., 2018; Alwitt & Pitts, 1996; Rahbar & Wahid, 2011). Recent researches also evident a growing sales graph of such products due to increased awareness of environmental issues (Al Mamun et al., 2018; Cherian & Jacob, 2012). Zhang et al. (2019) and Lee & Shin (2010) also provide evidence in favour of a positive link between Awareness and Purchase Intention. Studies suggest that SNSs can be powerful tool for raising environmental awareness among the younger generation (Singh Kushwaha, 2013; Rahim & Jalaladeen, 2016; Tlebre et al., 2016). Keeping in view the above-discussed relationships and concepts, the following hypotheses have been framed for better inquiry about the subject concerned:

H1: - Environmental Awareness via social networking sites significantly impacts Green Product Purchase Intention.

Environmental Concern & Green Product Usage/Intention to use

Mark & Law (2015) states that “Environmental concern refers to consumers’ emotional reactions such as worries, dislikes, and compassions, toward the environmental problems” (Milfont & Gouveia, 2006; Yeung, 2004; Habeeb et al., 2021). It has become a

topic of general concern and research due to accelerating environmental degradation (Rahbar & Wahid, 2011).

In the recent past, many studies attempted to find out the relationship between environmental concern and green consumer behavior (Wang et al., 2021; Chen, 2009; Kim & Seock, 2009). Environmental concern or value plays an essential role in motivating consumers to purchase and using Green Products (Wang et al., 2021, Shamsi & Siddiqui, 2017; Jacob & Cherian, 2012). It has been noticed that consumers with a high degree of environmental concern show a positive attitude and behavior towards using environment friendly products, i.e., Green Products (Suki, 2014; Karatu & Mat, 2014). However, few researchers don't agree with the link between environmental concerns and purchase behavior (Bamberg, 2003; Davis, 1995). Due to the importance of this concept as evident from the discussion, lack of research in the Indian context, and slight conflict in previous findings, the following hypotheses have been proposed:

H2: - Environmental Concern significantly impacts Green Product Purchase Intention

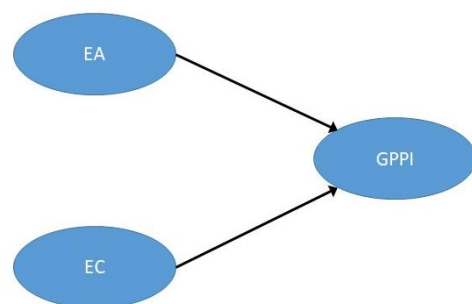


Figure 1 Theoretical Model

Methodology

The present study is descriptive, as it describes the behavior of Millennials concerning Green Products. The association of Environmental Awareness via SNSs, Environmental Concern is sought with Green Product Purchase Intention. These associations must be studied as the world needs robust research to cope with the rising environmental degradation or, say, pollution (Bhardwaj et al., 2020; Zhang et al., 2019; Kumar, 2016). The emerging economies around the globe are working towards strengthening research in the green (sustainable) production and consumption

domain (Giantari & Sukaatmadja, 2021; Amoaka et al., 2020). Hence, India being a major emerging economy in Asia and the world, needs such research that would have scope across different emerging economies. The present study, thus, has been conducted using responses from young Indian consumers, or say, millennial consumers. The study has considered millennials as the informed decision-makers (Schawbel, 2015) exposed to a lot of information over the internet (Schawbel, 2015; Vogels, 2019) and other mediums of communication. The data has been collected through primary source using structured questionnaires targeting Millennials in tier-2 cities of North India. The items for measuring the constructs in the questionnaire were developed involving various academicians' suggestions as well as review of scales provided in earlier researches (Maloney et al., 1975; Chan, 2001; Jain & Kaur, 2006; Suki, 2016; Chin et al., 2019). For collecting responses, convenient sampling has been used as the number of sampling elements was quite high and widespread. The researchers used both online as well as offline modes for collecting data. The social media network and mall intercept method were utilized to reach out to the respondents and get the questionnaires filled. The authors distributed the questionnaire links on Facebook and Instagram inbox of young users who were part of online consumer communities. The malls (names can be shared by corresponding author upon request) were also visited to get responses using mall intercept method. A sample size of 300 was considered for the study based on similar previous studies (Roh et al., 2022; Hasan et al., 2022; Qi & Ploeger, 2019; Arya et al., 2018, 2019, 2021; Suki, 2016), out of which 281 responses (93.6%) were found to be relevant for data analysis. The collected responses were screened, filtered, and coded using MS Excel and SPSS v25.

Lastly, confirmatory factor analysis (CFA) was used for confirming the model fit as well as validity of the scale subsequently testing the hypothesis using structural equation modelling (SEM) with the help of Amos v22.

Data Analysis

For analysing the data, SPSS v25 & Amos v22 has been used. Since the study's main objective was to know whether the Environmental

Awareness via SNSs and Environmental Concern create Green Product Purchase Intention, the regression estimates are extracted using Structural Equation Modelling, while motivating and demotivating factors are presented based on a percentage of responses. However, before analysing the data, reliability and validity of the scale was also enquired.

Table 2: Demographic Profile of Respondents

Variable		Frequency	Percentage
Gender	Male	123	43.77
	Female	158	56.23
Age	18-22	180	64.1
	22-26	84	29.9
	26-30	17	6.0
Educational Qualification	High School	26	9.3
	Intermediate	30	10.7
	Graduate	142	50.5
	Postgraduate	83	29.5
Total		281	100

Source: Authors' own

Table 1 shows the detailed demographic profile of the respondents. The sample observed is reasonably distributed as it is evident from Table 1. 56% of the respondents were female while the remaining were male; 64% belonged to the age group 18-22, 30% between 22 and 26, while 6% belonged to 26-30 years of age; a proper distribution can also be seen in terms of highest educational qualification ranging from High School to Post Graduation.

Table 3: Factors motivating for Green Product usage/purchase.

Factor	Frequency (out of 281)	Percentage (of 281)
Social recognition	74	26.33%
Government incentives/policies	43	15.30%
Environment sustainability	195	69.4%
Personal consciousness	149	53.02%
Peer pressure	20	7.12%
Cost of installation/usage	27	9.61%

Source: Authors' own

One of the main objectives of this study is to learn about the factors that motivate millennials for Green Product usage/purchase. The respondents were asked about

the same. They were asked to select multiple factors if more than one factor influences them. The results presented in Table 2 interestingly reveal two factors that were chosen by a clear majority of people, Environmental Sustainability (69%) and Personal Consciousness (53%).

Table 4: Factors de-motivating the Green Product usage/purchase

Factor	Frequency (out of 281)	Percentage (of 281)
Unawareness	100	35.6%
Unavailability	158	56.2%
Resistance to change	38	13.5%
Inefficiency perception	42	14.9%
Peer/social pressure	19	6.8%
Cost of installation/usage	62	22.1%

Source: Authors' own

Another essential objective of the study is to highlight the factor(s) that restrict the consumers from using Green Products. As evident in Table 3, for 56% of respondents, Unavailability of the product is a big issue among the consumers, followed by unawareness (35%) of such products in the market.

Sample Adequacy, Factor Loadings and Common Method Bias

The sample adequacy has been checked using KMO sample adequacy test achieving a value 0.87 which is more than the acceptable value of 0.5 (Hair et al., 2010), thus considered significant for carrying out factor analysis. The study used exploratory factor analysis (EFA) for getting the factor loadings of each item and to see if the items intended for same construct are loading together or not. The items with factor loadings above 0.4 were considered useful for the study however item EA4 was dropped due to low loading. Furthermore, since the data is collected using self-structured questionnaire and both the predictor as well as dependent variables responses came from same source, there may arise an issue of common method bias (Arya et al., 2019). To address the doubt of common method bias, Harman's single-factor test has been used during the EFA. The test produced 40% as the total variance explained by the first factor which is below 50% and thus acceptable (Podsakoff et al., 2012).

Confirmatory Factor Analysis- Reliability and Validity

Before proceeding further with hypothesis testing, the reliability and validity of the scale is checked. The internal consistency of the constructs is tested using Cronbach's α and composite reliability. The α for all the constructs is found to be greater than 0.7 (Table 4) which confirms the reliability of the scale. Furthermore, the CR values are also achieved above the threshold level, i.e., 0.7 (Table 4).

The convergent validity checks whether the items of same latent construct converge together or not (Byrne, 2010). For testing CV, composite reliability must be greater than 0.7 and average variance extracted (AVE) must be greater than 0.5 (Hair et al., 2010). For ensuring discriminant validity the square root of AVE is used. As a rule, the square root of AVE of each item must be greater than the correlation between each construct. The values for all the reliability and validity tests are found to be satisfactory (Nunnally & Bernstein, 1994) as shown in the table 4. However, for GPPI, AVE is 0.49 which is clearly extremely close to 0.5 while CR is quite above the accepted value. Thus, this validity is also deemed to be accepted based on the recommendations of Fornell & Larcker (1981).

Table 5 Reliability & Validity

Construct	EC	EA	GPPI	α	CR	AVE
EC	0.728			0.80	0.805	0.53
EA	0.607	0.714		0.71	0.712	0.51
GPPI	0.674	0.585	0.70	0.74	0.740	0.49

Source: Authors' own

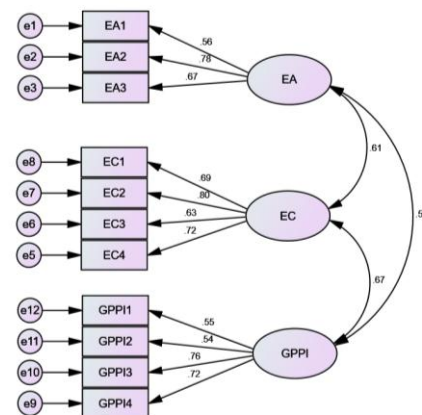


Figure 2 CFA Model

Model Fit

As the reliability and validity measures were satisfactory, the model fit indices of measurement model were assessed. With the help of Amos v22, measurement model was run which resulted in satisfactory values (Table 5) of CMIN/DF, Goodness of Fit Index (GFI), Tucker Lewis Index (TLI), Normed Fit Index (NFI), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA).

Table 5 Model Fit Indices

Fit Index	CMIN/DF	GFI	TLI	NFI	CFI	RMSEA
Value	2.583	0.934	0.91	0.90	0.93	0.075
Threshold	3	> 0.9	> 0.9	> 0.9	> 0.9	<0.08

Source: Authors' own

Hypotheses Testing

The Structural Equation Modelling had been applied to test the relationship between the testing variables. The results of regression weights for each set of variables have been compiled in Table 6. It is clearly evident that Environmental Awareness via Social Media as well as Environmental Concern has significant impact on the Purchase Intention for Green Products among the Millennials with p value less than 0.05. Thus H₁ and H₂ are both accepted.

Table 6 Hypothesis Testing (Path Analysis)

Path	Estimate	β	C.R.	P	Remark
GPPI <- -- EA	.227	0.28	2.897	.004	H ₁ Accepted
GPPI <- -- EC	.501	0.50	5.118	.000	H ₂ Accepted

Source: Authors' own

DISCUSSION

This study was conducted to know various aspects of millennial consumers concerning Green Product usage. The findings highlighted many valuable points, including the motivating and demotivating factors for the usage of environment-friendly products. It is pretty clear from Table 2 that millennial consumers are highly motivated to use Green Products mainly due to their concern for Environmental Sustainability. Approximately 70% of the respondents reacted positively to environmental sustainability as their reason to buy or use Green Products, followed by 53% of respondents being motivated by Personal

Consciousness. This is somewhat consistent with the findings of Rustam et al. (2020), Zhang et al. (2019), Gadenne et al. (2011), and Shamsi & Siddiqui (2017). However, previous studies (Chen & Chai (2010); Gadenne et al. (2011); and Shamsi & Siddiqui (2017) found out that personal norms and personal consciousness of a person play a significant role in shaping positive attitude towards such products but the present study highlights that millennials are more motivated for the cause of environmental sustainability. This difference could be due to growing environmental awareness and concern in society in general and among the youth in particular. Table 3 lists out the demotivating factors in which it is observed that Unavailability is the most dominating factor that acts as a hurdle in the consumption or usage of green products. This contrasts with Kumar (2015) which says that unawareness is the critical factor followed by cost. This difference shows that awareness about such products is increasing gradually, and consumers, especially millennial consumers, seek information on environment-friendly products. A similar study conducted in the recent past (Shamsi & Siddiqui, 2017) lists unawareness as one of the significant demotivating players, but the present results show a decline in unawareness.

H₁ was formulated to study the impact of Environmental Awareness via SNSs on Green Product Purchase Intention. The result of the hypothesis shows that there is a significant impact of EA on GPPI. It can be understood as increasing awareness on social networking sites about environmental degradation is influential for a consumer to decide a future intended purchase/usage of Green Product. This result is consistent with the findings of Zhang et al. (2019), Al Mamun et al. (2018), Lee & Shin (2010), Alwitt & Pitts (1996); Rahbar & Wahid (2011); and Vallero & Letcher (2011), as these all studies highlight the significant impact of environmental awareness on purchase intention. Previous researches provided positive evidence for these variables in the context of different countries. However, the present study confirms the same for millennial consumers of India. In contrast to it, Saxena (2021) found that purchase intention is independent from presence on social media platforms. H₂ tested the impact of Environment Concern on Purchase Intention

of environment-friendly products. The results accepted the hypothesis, and it is found that there exists a significant relationship between the two. The results are consistent with Wang et al. (2021), Shamsi & Siddiqui (2017), Jacob & Cherian (2012); Suki (2014); and Karatu & Mat (2014), but in contrast with Bamberg (2003); Davis (1995). It can be understood as the concern over environmental change and degradation can create an intention to buy or use eco-friendly products among millennial consumers. It is mentioned by many studies that millennials are rational consumers, so we can attribute the tested association with their analytical approach towards different walks of life. As per (Schawbel, 2015) most companies are striving hard to capture the millennial consumer's market share. It also states that they are more rational consumers and can be brand loyal based on product quality. So it makes it quite essential to understand their behavior, especially concerning Green Products, to ensure sustainable consumption.

Theoretical Contribution

Academicians and students can use the associations among the variables to understand the underlying concepts better. In addition, those associations can also be used for model/theory formulation by researchers of the concerned field. For example, the impact of Environmental Awareness via SNSs and its Concern on Green Product Usage Intention can formulate a model on Green Intention, taking along other related variables. Additionally, a standardized scale can also be developed by researchers for studying the abovementioned variables and associations in other settings. Thus, the knowledge body in the emerging economies context regarding the subject studied will be enhanced by the contents of this research. Furthermore, the theories or models with purchase intention can use the present study model and (or) findings for advancing or validating their model. In fact, theories like, Theory of Reasoned Action, Theory of Planned Behavior, Technology Acceptance Model, Unified Theory of Acceptance and Use of Technology, Theory of Sustainable Consumption etc can integrate environmental awareness, environmental concern as well as role of social media for better explanation of green consumption.

Managerial Contribution

The outcomes of the study can also be used by industry practitioners, i.e., manufacturers, marketers as well as online broadcasters. They should identify different sectors of the environment that are being degraded by their manufacturing process or using their products. The products should be manufactured using environment friendly tools and techniques. A millennial consumer is quite concerned about the environment, and their buying behavior is connected with it. Continuous research by the manufacturers and marketers could result in better products posing less harm to the environment. As shown in Table 3, the Unavailability of such products acts as a barrier for them. Manufacturers and marketers should ensure proper product distribution and maintain a smooth supply chain. The communication process between the market and the production facility must be strengthened to ensure smooth and consistent supply of sustainable products. The government bodies involved in policymaking can also implement the results of this study for improving the consumption of environment friendly products. Policies can be made for encouraging environmental awareness programs as well as green product awareness programs across social networking sites. This increased awareness can create a sense of concern among the consumers. Furthermore, advertisers, media portals as well as influencers may ensure broader content circulation over SNSs related to environmental issues and products that contribute to sustainability. Millennials, who are the young decision-makers, often characterized as rational, will readily purchase and use these products to ensure a safer environment for future generations.

CONCLUSIONS

The environment is being degraded at a rapid rate which is quite visible around us. The consumers, producers, and the government have started considering it, and steps for environment-friendly production, consumption, and distribution are being taken worldwide. In India too, every section of the society has started participating in the conservation of the environment, including the younger generation. The present study highlights the environmental awareness vis SNSs and concern of the Millennials, and it is

pretty evident that their Green Product Purchase Intention is being associated with their respect for the environment. They are concerned about the future of the country as well as the world. A large chunk of them is already using some or the other Green Product with a high intention to purchase more in the future. The producers and government should raise the awareness level about the environmental degradation among the masses using social media so that those who are not using sustainable products should develop the intention due to their awareness and concern of the same. It is also demonstrated from the findings that millennials are motivated to use sustainable products to ensure environmental sustainability and their self-consciousness. So the advertisements or awareness programs should focus on highlighting these two factors for increasing the participation of consumers. However, the Unavailability of the product and lack of awareness about these products

stop the consumers from going for environment-friendly products. The proper distribution of these products, ensuring comprehensive coverage of the market may increase its usage, and educating masses about the use of these products, their availability and clearing myths about them could also add to their increased consumption.

FUTURE SCOPE AND LIMITATION

Although the research has been performed with utmost care on the inclusion of respondents from different walks of life, still a broader and larger sample covering more cities of India could have provided more credible information. Moreover, the study has been conducted with Indian respondents, which opens the gateway for future researches in a cross-cultural setting that may enhance the generalization of the results. The studied variables can be studied along with other variables of the Theory of Planned Behavior or other similar theories/models.

Appendix A: Items of Questionnaire

Construct	Items	Mode	Source
Environmental Awareness via Social Network Sites (SNSs)	EA1 Environment is degrading at a rapid rate.	C	Self (Discussions with experts)
	EA2 Social Networking Sites provide ample content related to environmental degradation.	C	
	EA3 I come across many posts on SNSs about environment.	C	
	EA4 My usage of SNSs have enhanced my knowledge about environment degradation.	C	
Environmental Concern	EC1 I am worried about the environment future generations are going to get.	M	Maloney et al. (1975); Chin et al. (2019); Jain & Kaur, 2006
	EC2 I would be willing to change my lifestyle if that could bring reduction to pollution	M	
	EC3 The government should impose stricter laws for protecting our environment.	M	
	EC4 I keep on collecting information on how we can protect our environment.	M	
Green Product Purchase Intention	GPPI1 I expect to purchase green product in the future because of its environmental benefits	A	Suki, 2016
	GPPI2 I intend to buy green product because of my environmental concern	A	
	GPPI3 We should purchase green products to contribute to environmental protection	A	
	GPPI4 I would prefer buying green products alternatives in future over the conventional products.	M	

A: Adapted; C: Created; M: Modified

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THE INFLUENCE OF SOCIAL MEDIA ON USERS' TRAVEL DECISION USING INFORMATION ADOPTION MODEL

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ABSTRACT

This study aims to examine how user-generated content (UGC) in social media influence the travel decision of the travellers' using social media for choosing tourism destination and services. UGC is used by the travellers before travelling, while traveling and after traveling, which has primarily transformed tourism and hospitality industry. The social media users' normally share their positive or negative reviews about their experience on destinations and services which influence the travellers in choosing tourism destination and services. So, the current study proposed to examine the information adoption behavior of the travellers' using a conceptual model developed on the basis of Information Adoption Model (IAM). This study has examined the influence of information quality, information credibility, information usefulness on information adoption behavior of the travellers' using structural equation modelling (SEM) based on surveys of 384 respondents from National Capital Region, India. Finding of the study has established positive relationship between the variables. Further, this study has presented theoretical and practical implications as well as recommendations for further research.

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Keywords: Tourism, social media, Information Adoption Model, information usefulness, information adoption, India

INTRODUCTION

Travelers normally search for information posted by the traveller visited the place previously, in order to make them comfortable before planning the travel. The people are using social media for searching information on tourism destinations and services shared by friends and acquaintances for last few years (Ma & Kirilenko, 2021; Yu et al., 2021; Leong et al., 2021; Pop et al., 2021; Kumpu, et al., 2021; Liu et al., 2019; Narangajavana et al., 2019; Arya et al., 2018, 2019, 2021; Gretzel, 2018; Sigala & Gretzel, 2018) as well as for e-learning (Sharma & Gupta, 2021; Jha, 2018); green consumption (Kumar et al., 2020); Fashion Apparel (Tripathi, 2019); Media and Lifestyle (Paul & Uikey (2017); fast-food industry (Hanaysha et al., 2021); knowledge sharing (Sharma, 2021); purchase decision (Rashid et al., 2022; Sharma et al., 2021, 2022a, 2022b). Social media have changed the methods of searching information for travel planning by the travellers; they look for experience of others in social media, try to get connected with other travellers and

communicate with them. Tuten & Solomon (2015) mentioned social media is serving the following functions in tourism and beyond: 1) community; 2) publishing; 3) entertainment; and 4), commerce. Further, Chen et al. (2021) and Yoo et al. (2010) have pointed out that travellers are using social media for guidance. Thus, the people who are very familiar with social media websites or applications like WhatsApp, Facebook, Twitter, Youtube, Instagram etc. like to use them for searching useful information on tour and travels. It is evident from the previous studies that social media is useful for choosing travel decisions (Stylos 2020; Panda & Thakkar (2018); Zeng & Gerritsen, 2014; Ribeiro et al, 2014; Sparks & Browning, 2011; Ye et al., 2011; Ye et al., 2009; Yoo & Gretzel, 2008). It has empowered tourists to co-create value in their travel experiences (Buhalis, 2019; Zhang, 2020). Lots of studies are available on impact of social media in tourism and hospitality sector, most of the studies used technology acceptance model in context of social media adoption like Technology Acceptance Model (TAM) (Lin,

2007), Extended TAM (Ayeh et al., 2013a; 2013b), Combined Technology Acceptance Model- Theory of Planned Behavior (C-TAM-TPB) (Jalilvand & Samiei, 2012), Theory of Reasoned Action (TRA) (Hsiao et al., 2013), Elaboration Likelihood Model (ELM) (Filieri & McLeay, 2013). Some of the integrated models or theories are also used to explore consumers' intention to use social media for travel decision; they are ELM and TPB (Wang 2012), TPB, TAM and Social Influence (SIT) (Casaló et al., 2010), but there is no study available on impact of social media in tourism and hospitality sector using Information Adoption Model (IAM) (Sussman & Siegal 2003).

The current study will focus of understanding the tourist intention to use social media for tourism and hospitality using Information Adoption Model (IAM). Social media is relatively new form of media which have brought new form of communication between business-to-business (B2B), business-to-customer (B2C) and customer-to-customer (C2C). People are now able to exchange their opinions, experiences and discuss their experience on social media (Chu & Kim, 2011; Kozinets et al., 2010).

According to Chu & Choi (2011) social media has a potential to reduce anonymity and make the information more trustworthy and reliable. The information generated in social media could be imaginative with an objective to influence the customers. Since travellers are exposed to vast amount of information through social media, they may screen the information before using it. Thus, user generated content (UGC) in social media can influence consumers behavioural intention (Knoll 2015; Jain et al., 2021). Although it has been tested in context of consumers' purchase intention (Bickart & Schindler, 2001; Chan & Ngai, 2011; Park et al., 2007; Pitta & Fowler, 2005; See-To & Ho, 2014; Poonia et al., 2021), but it not tested in context of travellers' intention to choose of tourism destinations and services. Therefore, the current study will examine the factors influencing travellers' intention to use UGC in social media for choosing tourism destinations and services.

More specifically, the proposed model will examine the influence of information quality, information credibility, information usefulness on information adoption behavior of the

travellers. The result of the study going provide theoretical insights on influence of UGC on travellers' intention to use in social media and it will add knowledge to current literature. While the managerial implication of the study will help the tour operators, managers and other stakeholders to understand the role of different determinants of UGC information in social media and it effect on traveller' choice or intentions to use of social media, thus it will help the marketers to better utilize UGC in their marketing activities. So, for the current study, a conceptual model is developed based on the Information Adoption Model (IAM) (Sussman & Siegal 2003) to unfold the situation, where travellers will evaluate the information before adopting any information for choosing tourism destinations and services. The remaining the paper is as follows. Section 2 is on review of literature and research model. Section 3 is dedicated to research methodology. Section 4 describes the results and analysis of the study. Discussion and implications are presented in section 5. In last section limitations, conclusion and future scope is discussed.

REVIEW OF LITERATURE AND RESEARCH MODEL

Social Media

Social media is a cost-effective means for interaction and engagement with their stakeholders, which enable immediate access to real-time data created by them (Roshan et al., 2016). It has empowered stakeholders, they can generate content in favour off or against any organisation on social media platforms (Etter et al., 2019; Welbers & Opgenhaffen, 2019; Zhai et al., 2019). While Kaplan and Heinlein (2010) mentioned that social media includes of social networking sites like Facebook, Twitter, My Space and collaborative projects like Wikipedia. It also includes YouTube as content communities, virtual social worlds and blogs. Social media is defined as "a group of internet-based applications that build on the ideological and technical foundations of Web 2.0, and that allow the creation and exchange of user content" (Kaplan and Haenlein 2010, p. 61 as cited in Whiting & Williams, 2013). Thus, it used to create, maintain and circulate information for educating one another in a marketplace. Social media is used to create, communicate, deliver and exchange

information among the stakeholders (Tuten and Solomon 2018). According to Alhadid (2014), there are five dimensions of social media marketing, namely, online community, interaction, content sharing, accessibility and credibility.

Content of social media is either created by its users or marketers. Content is “the critical information the website, application, intranet or any other delivery vehicle was created to contain or communicate” (Halvorson and Rach, 2012, p. 28), which people read to learn and experience. Social media includes Social Networking Sites (SNS) like Facebook (2004), Myspace (2003), Hi5 (2003), Social bookmarking like Digg (2004), Video sharing like YouTube (2005), Picture sharing like Flickr (2004), Professional networking sites like LinkedIn (2003), User forums/ weblogs like. Blogs (1990s), Micro blogging like. Twitter (2006), Plurk (2008) and it also includes text messaging, *Personal Digital Assistants* (PDAs), instant-messaging (IM), chat, e-mail and videoconferencing allow an individual to create their own materials and distribute (Hays et al., 2013; Kietzmann et al., 2010). Social media provides lots of information to the users, which they use for the purpose of decision making. In recent past, there is enormous growth in use of social media by the travellers as well as by the service providers in tourism and hospitality industry (Lopez et al., 2011).

User generated content (UGC)

The information created by the users in social media is termed as user generated content (UGC). In some of the recent studies, it was found that travellers get influence by different types of information generated by the users like photographs, videos, reviews and blogs on their travel experience (Yoo and Gretzel, 2010). The travellers normally use the social media platforms for consuming, using and generating information. Hennig-Thurau and colleagues (2004) mentioned that people are generating online content because of eight reasons: venting negative feelings, providing platform assistance, to show concern for other consumers, to create extra-version/ positive self enhancement, to get social benefits, getting economic incentives, helping the company and to advice others (Zhang & Lee, 2012)

THE RESEARCH MODEL

Information Adoption Model (IAM)

The IAM originally suggested by Sussman & Siegal (2003), is widely used in context of information adoption across various contexts. In past, researchers have applied Theory of Action Reasons (TRA), Theory of Planned Behavior (TPB) and Technology Acceptance Model (TAM) as base models to identify the determinants for adaptation of ideas or information (Ajzen, 1985; Davis, 1989; Fishbein & Ajzen, 1975). However, Sussman and Siegal, (2003) developed IAM by integrating two models; TAM (Davis 1989) and Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986; Petty et al., 1981). According to IAM, the people get influenced by the message from two routes, central and peripheral (Shen, Cheung, & Lee, 2013; Sussman & Siegal, 2003). The central route is known for the core of the message, while the peripheral route is known for the issues which are indirectly related to core of the message (Cheung et al., 2008; Petty & Cacioppo, 1986; Shu & Scott, 2014).

The IAM used in this study has four components adopted from original IAM (Sussman and Siegal, 2003). The first component, argument quality is referring to central route, while the second component source credibility refers to peripheral route, third component is information usefulness and the fourth component is information adoption. The IAM explains how people get influenced by the user generated information in digital platforms. Since this model explains the information adoption among the travellers in context of digital platforms, that is information generated in social media, it was applied to study the influence of word of mouth generated in social media Cheung et al., 2008; Cheung et al., 2009; Shu & Scott, 2014; Viviani & Pasi, 2017; Fileiri & McLeay, 2013; Yan et al., 2016; Erkan and Evans, 2016).

Since this research is focus on examining the travellers’ intention to adopt UGC in social media for choosing travel destination and services, IAM is found to be most appropriate model for this study. The different components of IAM are modified and applied in this study. They are information quality, information credibility, and information usefulness and information adoption. Figure I depicts the proposed conceptual model employed in this study. Model states that

information quality and information credibility are precursors of information usefulness which further influence the travelers' intention to adopt UGC in social media for choosing travel destination and services.

The users of social media are exposed to a huge amount of UGC in social media either deliberately or accidentally and it was established previously that UGC in social media influence consumers' purchase intentions (See-To & Ho, 2014; Wang et al., 2012). However, all UGC in social media do not have the similar effect on consumers' purchase intentions, it varies with context; in fact, the level of impact varies from product to product (Yang, 2012). In the current study, IAM is used to predict that the travellers' intention to adopt UGC in social media for choosing travel destination or services.

Information quality

UGCs are generated by users, tour operators, and hospitality industries on social media; since the information is coming from different sources it is now become more critical to understand importance of information quality and credibility (Erkan and Evans, 2016; Xu, 2014). Consumers purchase or use a product or service when they get satisfied with the information given in social media (Olshavsky, 1985). Further, the previous research on IAM found that the quality of UGC or users' reviews have positive impact on consumers' purchase intentions (Lee & Shin, 2014; Park et al., 2007). Erkan and Evans (2016) found that information quality influence information usefulness, which indirectly impacted the purchase intention (Xue et al., 2018). Thus, it is predicted that the quality of UGC in social media can be one of the determinants which may be positive related to usefulness of information generated by the users in social media which may indirectly affect travellers' intention to adopt UGC in social media for choice of travel destination and services.

H1. Information quality of UGC in social media has positive relation with information usefulness for choosing travel destination and services.

Information credibility

Information credibility is defined as a trustworthiness of the source (Wathen and

Burkell, 2002). The previous studies have established that there is positive relationship between information credibility on consumers' purchase intentions (Torres et al., 2018; Srinivasan & Barclay, 2017; Hui, 2017; Nabi & Hendriks, 2003; Prendergast et al., 2010) which effect the consumer' information adoption (McKnight & Kacmar, 2006). Nevertheless, according to Wathen and Burkell (2002), information credibility is the initial factor in developing individuals' point of view towards information. Therefore, it is predicted that the credibility of UGC in social media can be one of the determinants which may have positive relationship with usefulness of information generated by the users in social media which may indirectly affect travellers intention to adopt UGC in social media for choice of travel destination and services.

H2. Information credibility of UGC in social media has positive relation with information usefulness for choosing travel destination and services.

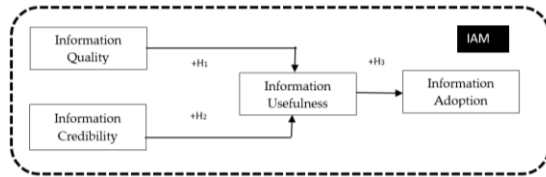
Information usefulness and information adoption

Information usefulness has been defined as perception made by the people that new information will be useful to people and it will enhance his/her performance (Bailey & Pearson 1983; Cheung et al., 2008; Yeap et al., 2014). Information usefulness is one of the important determinants of information adoption (Davis 1989; Sussman & Siegal, 2003; Erkan and Evans, 2016) and purchase intention (Lee & Koo, 2015). Research also shows a positive relationship between information usefulness and purchase intention (Cheung, 2014; Dachyar and Banjarnahor, 2017). People normally opt to engage with the information it they find it is useful. Predominantly in social media, the travellers come across a large amount of information generated by the users' before travelling, during travelling and after travelling (Chu & Kim, 2011). Therefore, the travellers' may have intention to adopt UGC in social media when they find them useful for choosing their travel destination and services or seeking advice from others. Thus, this study hypothesizes that information usefulness is related to information adoption.

H3. Information usefulness of UGC in social media has positive relation with intention to

adopt of UGC in social media for choosing travel destination and services.

Figure I: Hypothesized Research Model for the Study



RESEARCH METHODOLOGY

In order to test the hypothesized relationships among variables for the proposed research model, a survey was conducted using a structured questionnaire comprise of two sections. Section one brings together demographic data of the respondents' namely age, gender, educational qualification, and occupation. The second section of the questionnaire was developed based on the detailed review of literature, which content four constructs incorporated in the conceptual research model, namely, information quality, information credibility, information usefulness and travelers' intention to adopt UGC in social media for choosing travel destination and services.

This study used pre-tested statements that have been validated in earlier studies. A three-item scale was used to measure information quality adapted from the study of Park et al. (2007) (i.e., "about tourism which are shared by my friends in social media is understandable", "I think the Information about tourism which are shared by my friends in social media is credible", "I think the Information about tourism which are shared by my friends in social media is clear") and information credibility was measured with the help of four items based on Chu and Kim (2011) ("I think the Information is factual", "I think the Information is accurate", "I think the Information is credible", "I think the Information is reliable"). The information usefulness was measured using three statements adapted from Bailey and Pearson (1983) ("I think the Information is valuable", "I think the Information is informative", "I think the Information is helpful). Finally, to measure intention to adopt three items were tailored from Cheung et al. (2009) ("I think the I will

buy the information", "I think I will the Information again and again", "I think I will definitely buy the Information). All these statements were measured on a five-point Likert scale anchored from '1' (strongly disagree) to '5' (strongly agree). Inputs were taken from the experts working in the field of tourism to ensure the content validity of the questionnaire.

Before the final survey, pilot study was conducted on 30 respondents who use UGC in social media for choosing travel destination and services and the suggestions given by them were incorporated. The data collection was done in NCR region, India to study travelers' intention to adopt UGC in social media for choosing travel destination and services. Data collection was done using online and offline survey from 384 respondent is considered appropriate when the population constitutes millions (at 95% confidence level and 5% margin of error) (Krejcie & Morgan, 1970; Sekaran, 2006). The respondents of the study consisted of adults with an age 20 and above and use UGC in social media for choosing travel destination and services.

RESULTS AND DISCUSSION

Demographic Profile of the Respondents

Table III depicts the respondent profile, which have intention to adopt UGC in social media for choosing their travel destination and services. Of these 384 samples, 258 (67.2%) of the respondent are less than 60 years of age, while 228 (59.4%) were male and 156 (40.6%) were female. 225 (58.6%) of the respondent are having annual income less than or equal to 10,00,000INR (68.6%) and remaining 159 (41.4%) having annual income more than 10,00,000INR. 146 (45.8%) of the respondent are service holder while 208 (54.2%) of them are businessman or businesswoman.

Table III. Respondent's Profile

Demographics	Frequency	Percentage
Age		
20- less than 40	140	36.5
40- less than 60	118	30.7
60 and above	126	32.8
Total	384	100
Gender		
Male	228	59.4
Female	156	40.6

Total	384	100
Annual Income (in INR.)		
Up to 10,00,000	225	58.6
10,00,000 -20,00,000	130	33.8
Above 20,00,000	29	7.6
Total	384	100
Occupation		
Service	176	45.8
Business	208	54.2
Total	384	100

Source: Authors' Work

Assessment of Reliability and Validity

All constructs are measured on the basis of the respondents' opinions. Amos 21 is utilized for assessing the reliability and the validity of the measurement model and further for the assessment of the structural model. Table I shows the standard loadings, alpha values, composite reliability, and average variance extracted (AVE).

Table I. Standard Loading, Convergent Validity, and Reliability

Construct and Item	Std. loading ^a	Alpha Val.	CR	AVE
Information Quality (IQ)		0.703	0.742	0.561
IQ1	0.733			
IQ2	0.838			
IQ3	0.661			
Information Credibility (IC)		0.864	0.847	0.577
IC1	0.831			
IC2	0.742			
IC3	0.753			
IC4	0.733			
Information Usefulness (IU)		0.893	0.811	0.763
IU1	0.814			
IU2	0.931			
IU3	0.847			
Information Adoption (IA)		0.834	0.857	0.683
IA1	0.837			
IA2	0.874			
IA3	0.654			

Note: ^aAll factors loadings are significant at $p < 0.01$

Source: Authors' Work

All the items load on their respective dimensions are significant ranging from 0.661 to 0.931. Also, the AVE values obtained are all above 0.50, indicating convergent validity among items for each latent construct (Hair et al., 2006). Internal consistency has been shown

through the composite reliability and cronbach's alpha values which are above 0.70 for each construct (Hair et al. 2006). Table II exhibits the correlation matrix showing maximum shared variances (MSV), average squared variances (ASV), and average variance extracted (AVE). The MSV and ASV values are less than the value of AVE indicating the discriminant validity among the constructs (Hair et al. 2006).

Table II. Correlation Matrix, MSV Values, ASV Values

Constructs	MSV	ASV	IU	IC	IQ	IA
IU	0.535	0.171	0.873			
IC	0.483	0.092	0.072	0.761		
IQ	0.483	0.121	0.024	0.695	0.751	
IA	0.565	0.202	0.753	0.134	0.149	0.828

Note: 1. Diagonals represents the square root of the average variance extracted, while off-diagonal values represent the correlations.

Source: Authors' Work

Assessment of the Structural Model

Table IV shows the results of the structural model fit indices. All the indicators have shown improvement in the values after path analysis indicating towards a good model fit. For the structural model, the chi-square value ($\chi^2 = 13.315$ with 3 degrees of freedom (d.f.) and CMIN is ($\chi^2/\text{d.f.}$) = 4.363. Other reported indicators such as GFI, TLI, CFI, and REMSEA have also shown improvement over the measurement model (Table IV).

Table IV. Structural Model Estimates

Model	χ^2 d.f.	$\chi^2/\text{d.f.}$	GFI	TLI	CFI	REM	SEA
	13.315	3	4.363	.901	.905	.828	.043

Source: Authors' Work

Results of Hypotheses Testing

Figure II represents the research model with beta values. The path estimates are shown in Table V and the values suggests that IQ and IC have significant positive relationship with IU. Path estimates also suggest that IU has a significant relationship with ($\beta = .79$, $p < 0.001$) with travellers' intention to adopt in social media for choosing travel destination and services.

Results indicate that IQ is more important ($\beta = .58$, $p < 0.001$) factor influencing IU than IC (β

= .19, $p < 0.01$). In sum, all the hypotheses developed for the study have been accepted.

Table V. Path Estimates

Hypothesis	Estimates	Results
H ₁ . Information Quality -----> Information Usefulness	1.210***	Accepted
H ₂ . Information Credibility ----- > Information Usefulness	.762*	Accepted
H ₃ . Information Usefulness ----- > Information Adoption	.813***	Accepted

Note: Significant at the $p < 0.001^{***}$, $p < 0.01^*$

Source: Authors' Work

DISCUSSION AND IMPLICATIONS

Discussion

The results of the study showed that the variables empirical support for the hypothesized model (Figure II). The result of the study suggest that Information Quality ($\beta = .58$) and Information Credibility ($\beta = .19$) have significant relationship with Information Usefulness. The results corroborate with previous researches conducted using IAM model (Sussman & Siegal, 2003). Thus, tourists find UGC useful, they adopt UGC for choosing travel destination and services. Furthermore, the study found that IU has significant positive relationship with IA, it is evident from the result that information usefulness have positive significant impact on information adoption for choosing travel destination and services as suggested by Sussman & Siega (2003), IAM model is applicable in understanding the travellers' intention to use UGC in social media for choosing travel destination and services.

The research conducted previously by Shu & Scott (2014) found that there is positive relationship between the determinants. It has been proved that people in India, especially in NCR are using UGC in social media for choosing travel destination and services. Consequently, the study established that IAM model fit in tourism and hospitality study and information quality, information credibility and usefulness of information turn out to be

important determinant which influences the traveller's information adoption.

Theoretical Implications

The present study theoretically contributes in literature by providing invaluable insights in the field of tourism and social media research using IAM. This study further contributes to the existing literature that information quality is strongly associated with information usefulness, which implies that information quality is important for travellers' adopting information from social media. Although information credibility is associated with information usefulness, it has been found to be insignificant for predicting information usefulness. However, information usefulness is strongly associated with information adoption and it is responsible for as much as 61 percent of variance. These addresses certain gaps in the literature by examining the information adoption behavior of the travellers using UGC in social media for choosing travel destination and services. It is important for researchers to simultaneously bear in mind that information quality plays important role in persuasion. This study is among the few works, which highlight travelers' behaviour towards adoption of UGC in social media for choosing travel destination and services.

Practical Implications

In terms of practical contribution, the findings of the study will help the tour operation, managers and other stakeholders working in tourism and hospitality industry. This study will help them in designing strategic business plans and promotional strategies for promoting tourist destination using social media. Managers can also use social media platforms for sharing experiences of their existing customers which will further help in instilling confidence regarding their services among the tourists. The findings of the study will be helpful for the government in framing tourism policies and developing better regulatory framework for the tourists after analysing the users' review and feedback in social media.

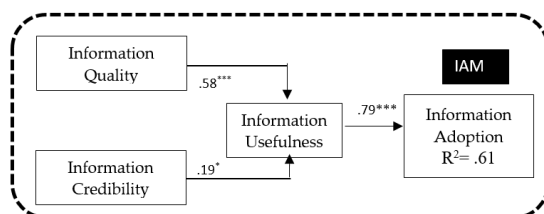
Limitations, Future Scope and Conclusion

The present study has some limitations which need to be acknowledged. First, the study is limited in terms of generalization, since the data was collected in NCR, India only. Second,

several moderator factors age, gender, marital status, occupation and income of the tourist can be used to assess the information adoption behavior of the travellers across various groups. Since the study is related with the behavioural aspect of the tourists, longitudinal study could provide more insightful information. Lastly, future studies should be conducted in some other cities from some other country to check the relationship between the variables.

To conclude, the present study is undertaken to examine the travelers' intention to adopt UGC in social media for choosing travel destination and services using IAM. The results of the study found that the factors studied have contributed ($R^2 = .61$) towards travelers' intention to adopt UGC in social media for choosing travel destination and services. The study establish that UGC in social media for choosing travel destination and services is beneficial for all the stakeholders such as travellers, tour operators, government, and hospitality industry as a whole.

Figure II: Research Model with Path Estimates



Source: Authors' Work

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EXAMINING THE EFFECT OF ELECTRONIC WORD OF MOUTH (EWOM) COMMUNICATION ON PURCHASE INTENTION: A QUANTITATIVE APPROACH

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ABSTRACT

In the digital age, electronic word-of-mouth (eWOM) communication has grown to be the most powerful influence on customer behaviour. However, the growing body of evidence raises concerns about credibility and eWOM quality. Various factors related to the source, message, medium and receiver of eWOM were collected by an extensive literature review. Aiming to synthesise existing research, this study seeks to determine the factors that contribute to eWOM's success as a wholesome construct. It also operationalises eWOM's measure. The research design of this study is quantitative and uses a structured questionnaire to collect data from eWOM givers and seekers in the online environment. The scale items were gathered from previous research and tested for dimensionality using 'Factor Analysis' to validate the eWOM construct. There is evidence to show that eWOM effectiveness can be measured to determine purchase intention. E-commerce has developed rapidly, and it is time to take advantage of this growth by measuring the eWOM construct comprehensively from a customer's perspective.

Keywords: Electronic word of mouth; eWOM construct; exploratory factor analysis (EFA); eWOM effectiveness; confirmatory factor analysis (CFA); online consumer behaviour; online communication; eWOM Scale Items

1. INTRODUCTION

Scholars determined uniformly that communication of Word of mouth (WOM) has a high impact on consumer behaviour, including personal advice, recommendations and suggestions from friends, families and fellow consumers (Engel et al. 1969; Cheung & Thadani, 2012; Rani & Shivaprasad, 2018; Nam et al., 2020). In the form of online product reviews & ratings on online websites, communities and social media (Van, 2021), "interpersonally, oral communication between consumer products and products has gradually been replaced with electronic word of word communication (eWOM)." eWOM refers to remarks made via the Internet, which are available to users on the Internet, on product, brand, or organization (Hennig-Thurau, 2004). As online consumption expands, people are actively or passively

involved in eWOM conversation (Hennig-Thurau, 2004; Rani & Shivaprasad, 2021). eWOM is designed to deliver product and organizational information to web-based interpersonal connections amongst virtual people for non-commercial objectives (Litvin et al., 2008; Cheng & Zhou, 2010; Van, 2021). Neilson (2015) indicates that 92% of consumers around the world value the suggestions of other customers, especially advertising types. Therefore, eWOM changes product behaviour stimulates the intention to buy and subsequently promotes the buy of the product (Cheung & Thadani, 2012; Zhao et al., 2020; Rani & Shivaprasad, 2021).

The eWOM's power and efficiency increased several times in the virtual age. Researchers demonstrated that the use of eWOM is favourable for buying decisions (Mishra, 2016;

Rani & Shivapasad, 2021; Arya et al, 2021). When the global COVID-19 epidemic indicated an increase in the eCommerce share from 14% to 17%, eWOM was the major factor in consumer decision-making (UNCTAD, 2021; Rani & Shivapasad; 2021). Research has explored the setting of consumer behaviour studies in eWOM and demonstrated a strong link between brand recognition, supplier appraisal, product preference and stakeholder public relations (Chatterjee, 2001; Cox et al., 2008; Dellaracas et al., 2007; Lee et al. 2009, Shivprasad & Rani, 2020).

Consumers worldwide rely more than any other type of communication on the recommendations of other consumers. Consequently, eWOM is one of the decisive criteria to measure the behaviour of a product and stimulates buying intent (Cheung & Thadani, 2012). However, the ability of eWOM reviews to influence consumer's purchase intention is frequently questioned due to the possibility of manipulation by sellers and fakeness. There is a lack of process to ensure the quality of eWOM. Consumers find it difficult to evaluate eWOM reviews and suggestions (Weitzl, 2016). As a result, the most fundamental interrogation in assessing the effectiveness and influence of eWOM communications is whether consumers believe the source, review message and platform of eWOM communication (Li & Chen, 2022; Rani & Shivapasad, 2021).

To determine the successful adoption of the eWOM of electronic consumer goods source related factors, message content-related factors, platform-related factors and receiver-related factors are presented in several past studies (Cheung & Thadani, 2012; Rani & Shivapasad, 2018; Van, 2021). The research field of eWOM studies was built on the basic foundation of WOM communication. eWOM has developed in number, complexity, purpose and measurement in the current stage (Ismagilova et al., 2016; Weitzl, 2016). Additionally, the current eWOM measurement must revisit its construct in a newer context like emerging markets, where eWOM consumption and involvement have increased enormously over the past decade (Zhang et al, 2016; Rani & Shivapasad, 2021; Sharma & Gupta, 2021). Therefore, this study aims to respond to quantifying the elements affecting the persuasiveness of eWOM on

purchasing intention by using the fragmented items of the eWOM scale. The current study will provide a comprehensive understanding of factors which differentiate the quality of eWOM.

To date, researchers have employed WOM scales to quantify eWOM communication in rich nations, which is inadequate as eWOM differs from conventional WOMs in terms of creation and consumption in developing countries (Goyette, 2010; Nam et al., 2020). The study will also provide a deeper understanding to eWOM researchers and practitioners in the comprehensive operationalisation of the eWOM construct.

2. LITERATURE REVIEW

EWOM can be defined as the informal communication directed at consumers through internet-enabled technology related to the usages or characteristics of particular goods and services or a particular seller. As eWOM is a key component of Industry 4.0's marketing environment, a growing number of consumers read and share information about their experiences on the Internet (Daowd et al., 2021; Ngarmwongnoi et al., 2020). Perhaps, most critically, the eWOM can affect potential customer's buying decisions and, later, their profitability (O'Reilly et al., 2016; Van, 2021). So consumers need to understand what, how and why information on their product experiences has been distributed on the Internet, and ever significant is for a marketer to understand the power of eWOM. Therefore, the factors that can contribute to establishing the eWOM measurement mechanism are imperative to study at current times. Therefore, the identification of perceived dimensions to measure eWOM adoption for product purchase has been prepared and discussed further with the systematic analysis of available literature. The factors examined and identified are related to four dimensions of communication: source-related factors, message-related factors, platform/medium related factors, and receiver related factors.

Hypothesis Development

The various researchers have considered source credibility, source homophily, message credibility, message quality, website credibility and receiver's characteristics factors under consideration while examining eWOM significance on purchase intention, and

therefore, this study will review the elements in subsequent paragraphs (Daowd et al., 2021; Ngarmwongnoi et al., 2020; O'Reilly et al., 2016; Kim et al., 2018; Wern et al., 2016; Rani & Shivaprasad, 2018).

2.1 eWOM source credibility

An eWOM sender is a contact source for eWOM messages. The perceived utility of eWOM communication as a whole is affected by the author's credibility. When there is a high degree of trust, the reader or recipient views the source as credible, erudite, and dependable (Nahed Al-Haidari, 2014; Daowd et al., 2021; Sharma et al., 2022c). These include credible sources, information about the sources, degree of reliance on sources, and type of source (Menkveld, 2013; Arya et al., 2018; Ismagilova et al., 2020; Shivprasad & Rani, 2020). It is critical for the credibility of the source of the eWOM message to be built when the eWOM message recipient is processing the message (Cheung, Luo, Sia, & Chen, 2009; Muda & Hamzah, 2021). The eWOM results get better when the message author has extensive experience. To assess the author's knowledge, look for his or her consistent use of product-related technical jargon. When it comes to eWOM, this trust can be the foundation that new enterprises can use to get a foothold in the market (Chaparro-Peláez, 2015). Source credibility impacts the purchase intention and brand image of products (Shivprasad & Rani, 2020; Siddiqui et al., 2021).

H1: Source credibility in eWOM communication has a significant relationship with purchase intention.

2.2 eWOM and homophily

Homophily is a critical indicator of Word of mouth communication effectiveness (Bruyn & Lilien, 2004; Jalees et al., 2015; Rani & Shivaprasad, 2018; Steffers, 2009). Homophily has been connected to the source of persuasive communication in eWOM research as a realistic element in creating and affecting relationships. According to research, people like identical people increase their interpersonal attractiveness and persuasion (McLaughlin, 2012; Arya et al., 2018; Rani et al., 2021). Homophily is the degree to which individuals are identical in terms of their age, gender, education, and social status (Chaung & Thadani, 2012; Ismagilova et al., 2020;

Suwandee et al., 2019). Previous literature has shown a significant relationship with purchase intention when sources exhibit similarities to receivers (Kulkarni, 2017; Muda & Hamzah, 2021). Source Homophily has an impact on the eWOM recipient's attention, persuasion, and credibility.

H2: Source homophily in eWOM communication has a significant relationship with purchase intention.

2.3 eWOM message credibility & message quality

EWOM communications traditionally vary from WOM communication as the messages are written, viral and timeless across regional borders. Several studies examined the message characteristics, and text message analysis was performed better to understand the message's effect on eWOM adoption (Li et al., 2022). Yayli and Bayram (2012) stated that Valence, volume, presence, consistency, emotion, and ratings are eWOM message characteristics that affect its effectiveness (Arya et al. 2018; Rani & Shivaparasd, 2019; Hanaysha et al., 2021).

H3: eWOM message credibility has a significant relationship with purchase intention.

An eWOM message's characteristics are determined by its quality, volume, accuracy, emotions, content, and rating (Saremi, 2014; Ismagilova et al., 2019). The evaluation of the elements of the eWOM letter, presentation, and argument promotes credibility and encourages eWOM adoption (Menkveld, 2013). The message quality of eWOM communication is often regarded as a determining factor of eWOM influence (Rani & Shivaprasad, 2021)

H4: eWOM message quality has a significant relationship with purchase intention.

2.4 eWOM platform

A channel or medium is required for a communication process to take place. Although various platforms provide eWOM, they can be narrowly divided into two types: provider-generated and third-party generated (Saremi, 2014). Lack of specificity in terms of platform category is the main problem with many of the eWOM measurement approaches (social media vs UGC vs online reviews on e-tailing). Online reviews on e-tailing are also

known as “the exchange of information between [consumers] online via reviews of products or services on the electronic retailing website.” (Gerdt et al., 2019, p. 155) For most researchers, social media posts from friends and followers have been a unit of analysis (Huang et al., 2010; Rani & Shivaparasd, 2022; jain et al., 2021; Jhamb et al., 2021). However, there are significant distinctions between these three platforms, and, as a result, they have substantial consequences for enterprises (Agarwal et al., 2021; Agarwal & Mewafarosh, 2021). Therefore, the new measurement should take into consideration the platform characteristics in review. Existing research takes the popularity and reliability of websites where eWOM appears as a significant influence on eWOM adoption & its effectiveness (Sijoria, 2018; Rani & Shivaprasad, 2018).

H5: eWOM platform credibility has a significant impact on purchase intention.

2.5 Receiver's Characteristics

A receiver is an individual who adapts to eWOM communication. The effectiveness of eWOM information received varies depending on how a person perceives a received message. There are specific characteristics of the receiver that affect eWOM communication (Cheung & Thadani, 2012). Consumers' need for cognition, market skepticism, personal cause, and demographic characteristics all contribute to eWOM communication efficacy. The 'need for cognition is already a well-studied subject in psychology (Cacioppo, 1996; Rani & Shivprasad, 2022). The research demonstrates that the 'consumer's level of cognitive need' determines their motivation to assess eWOM (Srivastava & Sharma, 2012; Saremi, 2014). Market skepticism, personal triggers, and demographic characteristics all affect how consumers evaluate eWOM messages.

H6: The receiver's Characteristics have a significant impact on purchase intention.

Table 1: Definition of eWOM measurement scale dimensions

Dimensions	Definition
eWOM	Any comments made by real consumers about a product or a brand that is made publicly available through the Internet

	(HennigThurau, 2004: Rani & Shivprasad, 2021).
Message Credibility	Consumer's perception of the reliability of the content of eWOM messages (Menkveld, 2013)
Source Credibility	Consumer's perception about the trustworthiness of the source of eWOM message (Cheung et al., 2008; Weerawit et a., 2014)
Receiver's Characteristics	Receiver's physiological characteristics which affect the information adoption process through eWOM (Rani & Shivprasad, 2022)
Source Homophily	The degree of similarity between the source of eWOM and the receiver of eWOM (Cheung & Thadani, 2012; Neumann, 2015)
Message Quality	The strength and expression in the eWOM message (Yayli & Bayram, 2012)
Website credibility	Consumer's perception of the trustworthiness of the website, where eWOM is posted (Almana & Mirza, 2013)
eWOM adoption	Consumers' consideration and then acceptance of communicator opinions (Li & Zhan, 2011)
eWOM effectiveness	The degree to which consumers adopt, form an attitude and make a purchase decision after evaluating the eWOM message (Rani & Shivapasad, 2021).

The eWOM Effectiveness

The eWOM is a valuable tool for generating a response to the product in the market. In recent years, researchers have begun to examine the impact of eWOM on consumer behaviour and business outcomes (Godes & Mayzlin, 2004). If the eWOM correspondence contains useful information, it will elicit a positive response (Cheung & Thadani, 2012; Li et al., 2022). Popular eWOM communication outcomes include attitudes (positive or negative), intention to buy and purchase (King et al., 2014; Sharma et al., 2021, 2022a, 2022b).

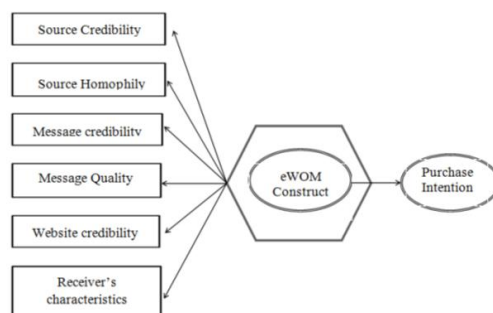
Cheung (2005) attempted to create and validate a connection between attitude, purchase intentions, and purchase. The results suggest that attitudes significantly influence purchasing intention (Sharma et al., 2021; Wang et al., 2018), while online purchase intentions positively impact purchases (Rashid et al., 2022). Additionally, the principle of reasoned action supports these relationships (Hussain et al., 2018). The adoption of eWOM

is advantageous for both online and offline product purchases (Cheung, Luo, Sia, & Chen, 2009; Zhao et al., 2020).

According to researchers, the usefulness of information has an important influence on the development of eWOM (Cheung et al., 2005; Liu and Zhang, 2010; Sijoria, 2018). eWOM is the trace of early buyer purchases and customer experiences that affect long-term consumer behaviour. eWOM creation has ancestries in social communication systems and eWOM selection is rooted in personal preference; thus, to realise the complete outcome for eWOM effectiveness, it is desirable to take the factors associated with the source, message, medium and the receiver (Li & Hitt, 2008).

To summarise, Cheung et al. (2009), Cheung & Thadani, 2012 and Rani & Shivaprasad (2019) detailed the factors influencing eWOM. Hening-Tharou et al. (2004) examined eWOM utilizing consumer access to information on Internet platforms and attempted to understand the motivators behind Internet consumer expressions. Because people want to connect and want to be helpful to others, eWOM is almost always driven by social motives. The foundation of social cognitive theory supports the argument that human beliefs exercise measure control over their intentions and actions (Lee, Kim & Kim, 2012). In order to evaluate the credibility of eWOM, Cheung et al. (2009) evaluated information and normative determinants. Based on the above discussion about the factors contributing to eWOM adoption and its effectiveness on purchase decisions, the research provides a basic model in line with social cognitive theory. The dimension of each independent variable on the dependent variable has been examined.

Fig. 1: Conceptual Model of eWOM effectiveness



The conceptual model represents the network of directional relationships. The construct of eWOM adoption is reflected by six indicators driven by a detailed literature review that influence consumer's purchase decisions. The literature has been helpful to collect the items about these factors and represented in the section below and the methodology followed during this research.

3. RESEARCH METHODOLOGY

3.1 Research Instrument

eWOM has been studied theoretically and empirically as a noteworthy information source that has a remarkable influence on each stage of the consumer decision-making process. However, the influence of eWOM communication in marketing research has been patchy, and a complete manual to understand the effectiveness of eWOM is lacking. A superior difficulty is that measurement scales are not entirely customised to the latest electronic version of WOM communication; thus, measuring the factors which affect eWOM adoption for a purchase decision is not available (Goyette, 2010). Multiple research work highlights the measurement scale on fewer dimensions & construct, which keep the complete picture shielded.

The present study has taken a construct of eWOM with various dimensions of factors, which affect eWOM adoption for product purchase and treats all dimensions' measurement scales as a measurement of the uni-dimensional construct to quantify the overall effectiveness of eWOM communication. The research instrument under consideration incorporates seven dimensions of eWOM effectiveness: Purchase Intention, Source credibility, source homophily, message credibility, eWOM message quality, receiver's characteristics and website credibility. Even though these dimensions can be separated conceptually, they may be correlated with each other for the effectiveness of the eWOM communication process.

The measurement scale under investigation is the pool of items for above mentioned seven dimensions, verified in the earlier study (Wood and Swait, 2002; Awasthy & Banerjee, 2012; Yayli & Bayram, 2012; Bas Menkveld, 2013; Almana & Mirza, 2013; Yin et al., 2014;

Lee et al.,2013; Van, 2021). Initially, forty-one items have been taken after modifying them as per the context. The content validity has been verified by meeting two industry experts who manage reviews at the e-taling website. To ensure face validity, a random sample of 17 customers has been considered and (Sharma, 2021) based on their recommendation. Some statements were changed for creating better meaning. For all the dimensions, a 5-point Likert scale has been incorporated, ranging from strongly agree (5) to disagree (1) strongly and for 'Receiver's characteristics' as well as 'prior knowledge, the scale has been ranged from not at all like me (1) to like me (5) completely like me. Finally, a sample study on 50 representatives of the population, chosen conveniently, helped eliminate the undesirable items for the study.

Participants & Procedure

The study has been narrowed in scope by considering online reviews (one form of eWOM) presented on online retail websites (a third-party platform for eWOM) to purchase electronic products in India. The universe for the study has been decided as a consumer who gives or seeks online reviews. Further, the three popular online retailer websites customer has been identified as the sampling frame. The 41-item eWOM scale to know the factors influencing eWOM adoption in purchase decisions has been administered approximately to 1700 customers selected randomly from existing customer's data set (Amazon, Flipkart and Paytm), gathered for this research purpose. Out of all prospect 1700 participants, 574 responses have been received. A total of 357 participant's responses from the data set were used for exploratory factor analysis (EFA) and 574 for Confirmatory factor analysis (CFA) and Structural equational modelling (SEM).

The items-sample ratio has been kept higher than 1:10 to get the measurement scale tested (Nunnally, 1978; Hair et al., 2015). Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.89, representing that the sample is appropriate for conducting the initial factor analysis. To validate the measurement scale in social sciences, exploratory factor analysis (EFA) is commonly used, especially when the research instrument is adopted for the first time (Isabel, Julio, & Francisco, 2014). EFA has

been executed using SPSS to check the internal consistency of the dimensions of scale. Several iterations of EFA have been conducted with Promax rotation because it was expected that the eWOM effectiveness scale's dimensions are correlated with each other (Hair, 2015; Sharma & Gupta, 2021).

The iteration of EFA has been conducted to confirm the multi-dimensionality of scale using an eigenvalue of more than one and suppressing factors loading less than 0.30. In the outcome, six-factor loading was generated, explaining 59.87 % of the variance extracted from the total variance. However, five-factor loading was low, and two factors showed cross-loadings in multiple dimensions, leading to dropping these items from the scale in consideration, leaving retained item as 33. All the retained items of seven dimensions with their reliability analysis are represented in Table 2.

4. DATA ANALYSIS AND RESULTS

The EFA has been conducted using principal axis factoring with Promax rotation to obtain the results. The main goal here has been set to know the common variance shared by correlated variables. The 33-item scale has been retained after scale refinement and used to confirm the findings. The iteration of EFA has been conducted by using an eigenvalue of more than one and suppressing factors loading less than 0.30. To observe the pattern matrix, seven-factor loading generated has been kept, which explains 59.07 % of variance extracted from the total variance. However, one item with cross-loading has been excepted by considering solid theoretical support. There are seven factors in response. Factors "Source credibility" and "source homophily" is related to the author characteristics of the eWOM message. Similarly, "Message credibility" and "Message quality" represented the desirable characteristics of eWOM messages.

On the other hand, eWOM receiver is also is embodied by "Receiver's prior knowledge" and "Receiver's characteristics". The last factor is related to medium, which represents eWOM message, named "website credibility". These factors individually work as the latent variable for the individual items and contribute to eWOM effectiveness illustrated in Fig. 1.

Table 2: Measurement Scale of eWOM effectiveness, Descriptive Results, Internal consistency & Reliability of Scale

Author	Dimension	Item Name	Item	Scale	Mean	SD	AVE (Avg. variance Extracted)	Composite Reliability	Alpha Value
Bas Menkveld (2013)	Source Credibility	SC 1	I feel that the reviewer is honest in providing accurate information about the product.	5 point Likert Scale	3.4	0.98	0.515	0.88	0.90
		SC 2	I trust reviews that appear with the real name and e-mail id of the author than a nickname.						
		SC 3	I trust reviews that appear with an accurate profile pic of the author.						
		SC 4	I trust a review if the author is knowledgeable about the product I want to purchase.						
		SC 5	I feel the reviewer is Knowledgeable if he/she uses technical jargon and terminology in language about the product which I want to purchase.						
		SC 6	I feel the reviewer is Knowledgeable if he/she uses the example of the functional key area of the electronic product I want to purchase.						
		SC 7	I trust a review if the author is a professional user of the product I want to purchase.						
Almana & Mirza (2013)	Source Homophily	SH 1	I believe in online review only if it is given by the person I know.	5 point Likert Scale	3	1.03	0.607	0.85	0.86
		SH 2	I can trust more on the product review if the author's age is similar to mine. (The reviewer's age affects my purchase decision.)						
		SH 3	I can trust more on the product review more if the author's geographic residence is similar to mine. (The reviewer's residence geography affects my purchase decision.)						
		SH 4	I can trust more on the product review if the author's gender is the same as mine. (The reviewer's gender affects my purchase decision.)						
Yayli & Bayram (2012)	Message Credibility	MC 1	The impact of positive reviews online has a greater effect on my purchasing decision.	5 point Likert Scale	3.36	0.94	0.598	0.87	0.88

		MC 2	The impact of negative reviews online has a greater effect on my purchasing decision.						
		MC 3	The online review, which consists of information about both positive and negative aspects of the product, affects my purchase decision.						
		MC 4	The number of product reviews affects my purchase decision.						
		MC 5	Recent product reviews posted on the website affect my purchase decision.						
		MC 6	The overall rating of a product affects my purchase decision.						
		MC 7	If the product rating is high (4 and above out of 5), I don't read reviews.						
		MC 8	Consistency of all reviews posted on the website affects my purchase decision.						
Yin et al. (2014), Bas Menkveld (2013)	Message Quality	MQ 1	Emotional expression in the reviews affects my emotions about the product for the purchase decision.	5 point Likert Scale	3.08	0.97	0.59	0.86	0.79
		MQ 2	An argument, which is valid in supporting its valance (Negative or positive) affect my purchase decision.						
		MQ 3	The spelling errors and poor grammar of the online review affect my purchase decision.						
Wood and Swait (2002), Lee, Jinhee (2013)	Receiver's Characteristics	RC 1	I try to anticipate and avoid situations in which there is a likely chance whenever I have to think in-depth about something.	5 point Likert Scale	3.2	0.98	0.581	0.86	0.86
		RC 2	I'd rather do something that takes little consideration than something that would undoubtedly test my cognitive abilities.						
		RC 3	I read only those online reviews which contain information that is relevant to me.						
		RC 4	I read all the consumer reviews and then decide what is relevant to me.						
		RC 5	I don't trust people quickly because people are not as honest as they pretend.						
		RC 6	I think People pretend to care more about one another than they do.						
Almana	Website	WC 1	The reliability of the site	5	3.38	0.91	0.515	0.70	0.73

& Mirza (2013)	credibility	WC2	that provides the reviews affects my purchase decision. The dependability of the site that provides the reviews affects my purchase decision.	point Likert Scale					
		WC 3	The popularity of the website that displays the reviews affect my purchase decision						

Results of CFA and SEM

After completing the dimension reduction process, the measurement scale has been taken to the validation phase. The formative construct comprises six dimensions -Source Credibility, Source Homophily, Message Credibility, Message Quality, Receiver's Characteristic and Website Credibility as determinants of eWOM effectiveness. All the variables represent a first-order formative construct for further analysis.

To validate the construct, CFA using AMOS has been used. The results are shown in Figure 2. The loadings of the items are generally found to be high. In the few cases, they may be low, but they have been kept for further consideration because the previous literature suggested these items may influence eWOM effectiveness.

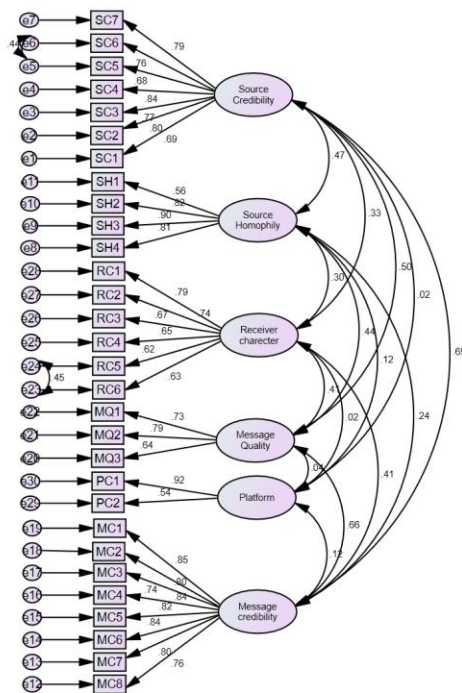


Figure 2: The Model with loadings using AMOS.

The model fit parameters have been achieved and presented in Table 3. The CFA meets the requirements of model fit, the scale stands validated, and the scale in consideration can measure the desired concept of eWOM effectiveness. The Chi-square divided by degrees of freedom values is expected to be less than 3 for a good model fit, which is realised in the presented model results. Whereas the other values like root mean square error of approximation (RMSEA), normed fit index (NFI), Tucker-Lewis coefficient index (TLI), comparative fit index (CFI), the goodness of fit index (GFI) and adjusted goodness of fit index (AGFI) are at acceptable (Hair et al. 2010). The values are within the acceptable level for acceptance of this model.

Table 3: Model fit indices

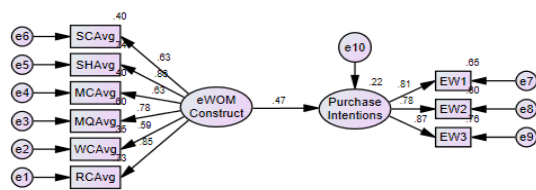
Statistics	Suggested Values (Gefen et al.	Value achieved.
Chi-square	< 5.0	2.930
RMSEA	<= 0.06	0.070
NFI	> 0.90	0.879
TLI	>= 0.95	0.912
CFI	>= 0.95	0.870
GFI	> 0.80	0.847
AGFI	> 0.80	0.810

The chi-square difference test has been done to compare the model fitness of the considered model with constrained models (Gefen et al., 2000). The RMSEA value of the constrained model was higher than this model, which implies that the original model is simple yet better to be perused in future.

Further, the path analysis was done using SPSS AMOS, and regression values are obtained for all the independent variables to purchase intention as the dependent variable.

The Chi-square divided by degrees of freedom values is 3.01, which is as expected for a good model fit. Whereas the other values like root mean square error of approximation (RMSEA) is 0.061, normed fit index (NFI) is 0.971, Tucker-Lewis coefficient index (TLI) is 0.969, comparative fit index (CFI) is 0.974, the goodness of fit index (GFI) is 0.968 and adjusted goodness of fit index (AGFI) is 0.942, and all are at the indication of good fit (Hair et al. 2010). The values are within the acceptable level for acceptance of this model.

Figure 3: The SEM Model



Additionally, the regression estimates are presented in table 4, and all the paths are significant in the model proposed to conceptualise the eWOM construct in predicting purchase intention.

Composite Reliability (CR), and Cronbach's Alpha values for all items under one dimension are shown in Table 2.

The convergent validity, represented by AVE, is also greater than 0.5 for all the dimensions, which is needed statistically to know the measurement scale's convergent validity for further model making. The composite reliability, which is more than 0.7 for all the dimensions, shows good reliability of the measures under consideration. Further, the paper explains the meaning of research.

5. Discussion and conclusion

The eWOM is a significant phenomenon on the Internet, and it has amazing marketing and economic consequences (Shu-Chuan & Yoojung, 2015). Particularly, in the time of COVID-19 pandemics, it has created a greater impact on consumer behaviour. Although there is a great quantity of study on WOM and eWOM, there are still considerable research gaps in this field. One of the key research gaps in eWOM comprehensive understanding to identify the eWOM effectiveness on purchase intension. There is a lack of getting validated measurement scales items through research

Table 4: Standard Regression weightage and Path Significance

Path Indication			Std. Estimate	S.E.	C.R.	P
Purchase Intentions	<---	eWOM_Construct	.482	.054	9.581	***
RC_A	<---	eWOM_Construct	.807	.053	10.843	***
WC_A	<---	eWOM_Construct	.612	.050	13.927	***
MQ_A	<---	eWOM_Construct	.804	.059	18.092	***
MC_A	<---	eWOM_Construct	.606	.050	13.742	***
SH_A	<---	eWOM_Construct	.816	.044	25.232	***
SC_A	<---	eWOM_Construct	.604	.051	13.691	***
EW1	<---	Purchase Intentions	.808	.049	13.742	***
EW3	<---	Purchase Intentions	.868	.054	20.339	***
EW2	<---	Purchase Intentions	.775	.044	18.898	***

The descriptive results, internal consistency & reliability of the measurement scale is a significant parameters to show while performing EFA (Isabel, Julio, & Francisco, 2014). The factor loading is shown in the above table, all dimensions are more than 0.5, which is good. Further, MS Excel has been used to calculate the mean, Standard deviation (SD), average variance extracted (AVE),

papers (Goyette, 2010). So this study has intended to quantifying the elements affecting the persuasiveness of eWOM on purchasing intention by using the fragmented items of the eWOM scale in context of emerging markets. The current study found six variable and its dimensions to examine eWOM effectiveness and elaborated on the items behind the latent variable's (Purchase intention) assessment.

Overall, the source credibility, source homophily, message credibility, message quality, website credibility and receiver characteristics has significant relationship in determining purchase intention in context of Indian online retailers. This advancement in eWOM understanding has various theoretical and practical ramifications.

Theoretical contribution

This research aims to evaluate whether existing eWOM constructs are sustainable or not in the present communication environment in predicting purchase intention, given considerable changes in electronic communication situation (Litvin et al. 2018). The findings highlight several deficiencies in the current eWOM outlook (Daoud et al., 2021; Arya et al., 2018). Many prior researches, were imitated to source and message credibility whereas, this study included website credibility as an influential factor in determining effectiveness eWOM communication. Receiver's characteristics were often ignored in credibility formation. This study has taken four different receiver's characteristics as a valid sub-construct and analyse the significant outcomes. First, Source credibility has been found to be direct association with purchase intention. Many previous research, such as Daoud et al., 2021; Menkveld, 2013; Arya et al., 2018; Ismagilova et al., 2020; Shivprasad & Rani, 2020. Source homophily is also revealed to be a key antecedent of the purchase intention which is consistent with previous research (McLaughlin, 2012; Rani et al., 2021).

The next dimension of our construct is message characteristics and message quality. The results of SEM analysis has proved that there is a significant impact of message characteristics and message quality on purchase intention. In other words, Message Valence, Message Volume, Message Rating, and Consistency in the message will influence the purchase intention positively. Additionally, message Argument Quality and Emotions expressed in the message has significant relationship with purchase intention. These findings are similar with the research evidence of Hanaysha & Momani, 2021 in developed economics.

Besides, the other variable of study is website credibility. The dimension of website credibility is measured from three observed

variables named as website popularity, website reliability and website attractiveness. The results of SEM analysis has proved that there is a significant impact of website credibility on purchase intention in context of online retail websites. The effectiveness of eWOM communication is also dependent on receiver's own characteristics. The factors like 'Need for cognition' 'lack of consumer scepticism' and 'relevance' influences the consumer's purchase intention towards product (Srivastava & Sharma, 2012; Saremi, 2014). More the receiver is sceptical about general things in life, less they will rely on eWOM communication. This study has contributed to theory by empirically testing model of eWOM communication which was developed by systematically executed literature review.

The revalidation and construction of an adequate measuring scale is also an outcome of the result. The study identifies the structure of the efficiency of eWOM in its six separate elements. The SEM shows how "source credibility" is perceived with seven important items, "source homophily" with four important items, "message credibility" with eight significant items, "message trust" with three key items, "receiver featuring six key items and "web site trust" with two important items after dimensions. The CFA and SEM findings are good and result in conceptual model validation (Goyette, 2010; Lee, Kim & Kim, 2012).

In the study of Goyette (2010), the variables 'Message Valence,' 'eWOM Intensity' and 'Content' were used to assess efficiency in eWOMs and Shivaprasad & Rani, 2020; Lopez & Sicilia, 2014, has used 'Source Credibility.' In similar cases, the efficiency of eWOM was examined by 'Website type' variables 'Message volume' (Lopez & Sicilia, 2014), 'Trust' (Trust), 'Homophily' (Hansen & Lee, 2013), 'Perceived value' (Hidayanto et al., 2017) and 'Usefulness of eWOM' (Chuang et al., 2008; Sharma & Gupta, 2021). However, the present study has combined and measured a lot of factors using a suitable statistical process for measuring eWOM inclusively on one scale. Furthermore, operationalisation of eWOM concept might be much better in terms of theory and practice.

Managerial Implications

Furthermore, the study moved beyond the simple systemic analysis of eWOM

communication and examined in detail emergent aspects to provide future guidance for research. Marketers should encourage the development of eWOM strategies pertaining to factors. The study recommends the marketers to design and manage a consumer review system. This consumer review system will strengthen the visibility of eWOM communication in more systematically manner and help in identifying the ineffective processes and unsatisfied consumer. The research confirms the role of 'eWOM Source and eWOM message credibility' that is why a personalized template can be provided along with reviewers detail purchase information and some personal attributes (By protecting stealing of personal data) to write a review of their experiences. online retailing sites could provide a review format and guidelines with appropriate product/service dimensions that allow reviewers to express both positive and negative feedbacks. Besides, this study offers a new measurement scale to capture the strength of eWOM communication on an online retail website. This research will help practitioners establish future strategies to measure the capacity of eWOM communication and to raise the number of eWOM givers on diverse online platforms. The eWOM measurements model will capture consumer purchase intention and assist brand managers to analyse enormous amounts of information to better leverage the benefits. In addition, this study offers insights into the huge potential of eWOM for brand building professionals.

Research limitations and future research directions

The SEM performed in the study shows good internal consistency, reliability and sample adequacy. All the sub-construct in the model exhibits a good correlation with the main construct which is eWOM effectiveness. However, CFA & SEM is just the beginning to operationalise a measurement through extracted variables; further discriminant validity & nomological validity can be performed with SEM results. In nomological validity, the researcher can compare at least two constructs for any possible linkage. Although the research has satisfactory statistical results, they may be limited by this study's sample choice and common method biases. The second-order formative construct can be measured in future studies to assure

better outcomes. One significant limitation of the study can be a common data source since the data for all the variables are collected by the consumer who seeks or gives eWOM via the Internet. The study, therefore, recommends that data be collected from different sources for the receiver's characteristics and the receiver's prior knowledge.

eWOM has been assumed as a unbiased and truthful content in research studies. However, by knowing the persuasiveness potential, a lot of undesirable content in name of eWOM has been spread. These manipulated eWOM messages are created with the intention of generating undue influence to the receiver's. eWOM messages on Internet have not been clearly differentiated which will lower down the credibility in whole eWOM communication. This opens a stimulating area of eWOM research on the diffusion of false information and its impact on consumer attitude. Besides, the eWOM construct operationalisation is too general. It does not consider the types of source, types of platform, types of receivers and their influence on the motive and engagement of eWOM communication. The author suspects that with the future growth of eWOM communication, the research needs to be very deep on specific factors. Therefore, future scholars can take such studies that can compare and evaluate various sources of eWOM and various platforms of eWOM on eWOM effectiveness construct.

CONCLUSION

This research provides an in-depth analysis of the current state of knowledge on the subject of eWOM communication studies. Different research indicates that eWOM mass investigations are an extension of prior WOM studies. Consumers are clearly dependent on eWOM to make their purchasing decisions, either directly or indirectly. The consumer suggestions for new companies are particularly important and allow them to achieve a sufficient basis for their customers. Another reason why this research is a pressing necessity in the context of Indian eCommerce is the rising online consumer base. The conceptual framework in the research explains the independent, dependent variable for the measurement of eWOM efficiency. This research investigates eWOM's perspective on

the source, message, medium and receiver to provide a whole picture of eWOM communication during the COVID-19 epidemic. Studying eWOM will make informed decisions and work for marketers and customers to achieve global well-being. The creation of good eWOM communication will enable new online enterprises to build up their market.

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IMPACT OF FIRM CREATED, AND USER GENERATED SOCIAL MEDIA COMMUNICATIONS ON CONSUMER-BRAND METRICS OF SMARTPHONES DURING COVID-19

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ABSTRACT

This study employs S-O-R approach to analyze the impact social media communications exerts on consumer-brand metrics of smartphones during COVID-19. A survey of 513 millennials from India through a well-structured questionnaire reveal that user generated content on social media positively influences purchase intent of consumers whereas firm created social media content doesn't directly influence the purchase intention. In addition to it, social media content generated by the firm significantly and positively influences user created communication on social media. Besides being insightful to the marketers on how they can target the millennials in a better way during COVID-19, this research bestows to the subsisting literature on how the communication on social media influence the brand metrics of a high involvement purchase when incremented hours are being spent on social media due to lockdowns and home stay restrictions.

Keywords: Perceived usefulness, Communication; Brand awareness, Purchase intention, Smartphones, Brand attitude

1. INTRODUCTION

The transformation of marketing from Marketing 4.0 to Marketing 5.0 (Kotler, Kartajaya, & Setiawan, 2021) is now being catalysed by the COVID-19 epidemic, and social media is playing a very predominant role in it (Samet, 2020). Stay home regulations across the globe have incremented the daily hours spent by users on social media. For example, thirty percent users in the USA are spending one to two additional hours (Tankovska, 2021), while forty six percent users in India are spending more than two additional hours (Morgan Stanley Research, 2020). This overspending of time on social media is resulting in a spike in all three activities of online engagement - creating, sharing, and consuming of content (see Shao, 2009), especially through smartphones. Smartphones have become instrumental nowadays in providing users an access to social media platforms like Zoom, Microsoft team, Facebook, WhatsApp, Edmodo, Telegram etc. (Sharma et al., 2022a; Susanto et al., 2021; Vithayathil et al., 2020). In these

conditions, it becomes quite evident to see how the incremented engagement with online content will influence purchase intention of smartphone in an emerging market like India wherein the inception of contact tracing (Fahey, & Hino, 2020) and vaccine registration through smartphone-based app Aarogya Setu (Basu, 2021; Nagori, 2021) is pushing the smartphone demand to all new levels. During the first quarter of 2021, smartphone demand in India has increased 23 percent YoY to surpass the 38 million marks. Thus, it becomes discernible to examine how social media communications (hereafter SMCs) are influencing the purchase intentions of Indians, especially millennials, a generational group possessing the highest buying capacity (Moreno et al., 2017; Bolton et al., 2013) and using social media the most (Chatzigeorgiou, 2017).

Through the espousal of SOR approach (Mehrabian & Russell, 1974), this study evaluates the impact the SMCs exercises on consumer-brand metrics of smartphones.

Specifically, it studies the effect of user generated and smartphone brand created content on the purchase intention of millennials, the generation me, me, me (see Stein, 2013). Millennials are tech savvy, habitual of using internet heavily (Ivanova et al., 2019; Duffett, 2015), and their buying approach is really different from other cohorts (Anshari et al., 2021). Now when the economic slowdown and tough competition has made it difficult for the brands to earn an incremental dollar in sale, this study assists the smartphone brands in how they can target and promote their products to this cohort in a better way.

Besides being of significant importance to scholars and practitioners in enhancing their discernment regarding the influence social media has on willingness to purchase during the present scenario of Covid-19, this study also contributes to the pertinent literature in many ways. First, this research extends the literature on how the increased online hours spent on social media can affect the brand awareness. Second, this study dilates the existent literature on how the brand awareness influences the purchase intention of a high involvement purchase during a pandemic. Third, when economic slowdown has caused job losses and pay cuts, this research enhances the literature on how the utility to be drawn from each single penny during a pressing purchase can act upon the employment of social media in recommendations, reviews and price deals, etc.

2. REVIEW OF LITERATURE

2.1 S-O-R Approach

The conceptual framework of this research is grounded at the S-O-R approach (Mehrabian & Russell, 1974) which feigns that one's perception and explication of the surroundings (stimulus) influences how s(h)e experiences(organism) that situation and then renders some outputs (response). The outputs may be either cognitive, or affective, or behavioural, or concurrent occurrence of some or all of these. The present research conceptualizes SMCs as a stimulus (Carlson, Rahman, Voola & De, 2018), one's attitude towards a smartphone brand as an organism (Sahoo & Pillai, 2017; Kunja, Kumar, & Rao, 2022) and then purchase intention (Hu et al., 2016; Goyal, S., Chauhan, & Gupta, 2021; Sharma et al., 2021, 2022a, 2022b) as a response

to it. Existing literature (see Carlson *et al.*, 2018) depicts that existing customers of brands on online platforms, interactions among the customers, socialization through reciprocal interactions etc. play as surrounding cues which are alike the user generated information on social media, the stimulus. The settings of S-O-R purports that the effect of stimuli on the behavior of an individual is intermediated by an affective (feeling) or a cognitive state (learning) which then constitutes the state of organism (Sharma et al., 2021, 2022a, 2022b). The stimuli guide the development of a brand specific favourable or unfavourable feelings, the brand attitude, the organism. One's own evaluation of a brand then lead to brand specific behavior, especially willingness to buy (Hu et al., 2016). When the existing literature (see Hu et al., 2016; Carlson *et al.*, 2018) largely seems centripetal to study only the influence of brand created stimuli, the present research examines the influence of user specific stimuli along with which it re-examines the effect brand specific stimuli exerts on the purchase intentions in present scenario of COVID-19.

2.2 Brand-created content

Brand-created content is dispersed to attract customers towards their brand. To this end, the organizations put various efforts in taking advantage of social media platforms to achieve their goals (Dwivedi et al., 2021). There are certain dimensions of social media marketing that may influence brand performance. The first one is how brands communicate with their customers through social media. Secondly, how brands can demand and distribute the competitive environment and evaluate it through social media. Finally, the brands should be able to forecast the future and respond to the current market expectation(s) by managing social media. Therefore, it becomes very essential for marketers to update themselves by developing knowledge, which can pay off and can influence the brand-related constructs as well (Hoffman & Fodor, 2010).

2.2.1 Brand-created content and user generated content

Contrary to the brands' traditional communication with customers, SMC gets attention with wide demographic appeal (Kaplan & Haenlein, 2010), with many benefits such as brands get an additional platform to interact with customers, with low-cost media

of communication when compared to other options available to enhance brand image, increase profits, and customer satisfaction (Sharma et al., 2021; Banks et al., 2002). The communication initiated by the brand on social media raise communication generated by the user on social media (Godes & Mayzlin, 2009). The brands indulged in user-generated content leaves a permanent impression on customers minds (Mangold & Faulds 2009), and the brand-initiated content has a positive impact on user-generated content (Ceballos et al., 2016). To test it in Indian context, the proposed hypothesis is-

H1: The communication created by a smartphone brand on social media positively influences the user-generated communication.

2.2.2 Brand-created content and brand awareness

As a perfect platform for interaction, social media is now employed by the marketers for engaging the existing customers (Wirtz et al., 2015), attracting new customers (Karimi & Naghibi 2015), building awareness about brand(s) (Hutter et al., 2013), enhancing brand loyalty (Erdoğan & Cicek, 2012) and brand image (Barreda et al., 2015). Doing so, results in generating more sales (Marshall et al., 2012). Realizing the need to manage a brand on social media platforms marketers put more emphasis on communication on social media through user (Smith et. al., 2012). The brand initiated content has a positive impingement at awareness about brand (Schivinski & Dabrowski, 2015; Godes & Mayzlin, 2009), wherein one's ability to identify and recognize a brand element is known as brand awareness (see Rossiter & Percy, 1987). To test the findings in the context of smartphone purchases by millennials in India during Covid-19, following hypothesis is proposed.

H2: The communication created by a smartphone brand on social media regarding smartphone positively influences the brand awareness.

2.2.3 Brand-created content and brand attitude

Brand attitude is a predisposition that can possibly be viewed as a customer's degree of interest in a particular brand that again is a resultant of his/her emotional evaluations and rational of the brand (Chaudhuri, 2006). It is the appraising facet of image of a brand and is a resultant of feeling(s) and belief(s) of a consumer(s) towards the attribute(s) of a

brand (Keller, 2003; Arya, Paul, & Sethi, 2018, 2019, 2021). Communication research has found that recurring exposure to the brand communication positively reinforces brand specific memories, creating a better feel of familiarity linked with notion of closeness and affection for brand resulting in positive brand attitude (Janiszewski, 1993; Hoyer and Brown 1990). Therefore, it is hypothesized that -

H3: The communication created by a smartphone brand on social media regarding smartphone positively influences the brand attitude.

2.2.4 Brand created content and purchase intention

Besides the content marketing, brand created content in communication literature is also referred as sponsored content, which is the intentional in-corporation of products, brand elements, or any compelling message into any non-commercial, or editorial content (Boerman, Van Reijmersdal, & Neijens, 2014).

Product placement through movies influences how well the spectators recognize the brand and what sort of their attitudinal intention towards the brand are (Dens, Pelsmacker, Wouters, & Purnawirawan, 2012). Brand created content in the research spanning to 60 brands have been found influence the brand attitude of Facebook users and the brand attitude is again found to influence their purchase intention (Schivinski & Dabrowski, 2016). Therefore, the proposed hypothesis in the present context is -

H4: Communication by smartphone brand on social media significantly and positively influences purchase intention for Smartphone brand.

2.3 User-generated content

The content which a consumer creates and is publicly available, not generated by a professional content creator having 24/7 access to different social media platforms for instance SNSs, video or photo sharing applications, etc. is known as user-generated content (Harris & Rae, 2009).

2.3.1 User-generated content and brand awareness.

Social media has resulted in shifting of electronic commerce into social commerce (Zeng et al., 2009). This has given rise to a platform where people not only have personal

communication with each other, but also they rate, write review, comment, share their experiences, etc., leading to co-creation for the brand (Wang & Hajli, 2014). How social interactions are influencing the buying behaviour of people is the biggest vantage of social media (Hajli, 2014). Positive SMCs by the user increases the brand awareness (Burmahn & Arnhold, 2008) because social media is considered as a trust worthier and more dependable basis of knowledge than conventional marketing practices (Foux, 2006). To test this mechanism for smartphone purchases in India during Covid-19, following hypothesis is formulated.

H5: The communication generated by users on social media regarding smartphone positively affects brand awareness.

2.3.2 User-generated content and brand attitude

The revolution brought by Web 2.0 has instituted a drastic alteration in the espousal of different SNSs by customers and has impacted how the customers interacted with them through the creation and sharing of content over various SNSs, thereby turning in to one of the most effective channel of (marketing) communications (Kietzmann et al., 2011). User created content in a research spanning to the purchase decisions of 60 brands in Poland have been found to influence the brand attitude of Facebook users (Schivinski & Dabrowski, 2016). To test the findings in the context of smartphone purchase during COVID-19, the proposed hypothesis is-

H6: The effect of communication generated by users on social media regarding smartphone positively influences the brand attitude.

2.3.3 User-generated content and purchase intention

Social media engagements result in three types of activities, namely consuming of content, creating the content and contributing to the content (Muntinga, Moorman, & Smit, 2011). In a study examining the impacts of user-generated content, it is reported that negative reviews have potential to harm the success of a video game while online reviews have been found influential for even not so popular video games (Zhu & Zhang, 2010). In the studies on travel industry, it is found that positive reviews affects the count of booking

done on a booking webpage (Ye, Law, Gu, & Chen, 2011) and travelers use the reviews more certainly if the reviews are found to have come from a highly credible source (Ayeh, Au, & Law, 2013). To test these mechanisms in the context of smartphone purchases by millennials during Covid-19, the proposed hypothesis is -

H7: The effect of communication generated by users on social media regarding smartphone positively influences the purchase intention.

2.4 Brand awareness, brand attitude and purchase intention

The aptness of potential customers to discern a brand in a specific category of products is known as brand awareness. The review of literature confronted to brand awareness and other facets is reported here as follows -

2.4.1 Brand awareness & purchase intention

With the passage of time, social media is attaining momentum and attention especially by the marketers as its capability of directly communicating with the customers (Hays et al., 2013; Hanaysha et al., 2021; Rashid et al., 2022; Jain et al., 2021; Jhamb et al., 2021). It is mainly because social media is having a substantial influence on organizations brand equity by generating brand awareness (Bruhn et al., 2012). Brand awareness affects a customer's purchase intentions directly (Dabbous, & Barakat, 2020). Thus, brands using platforms of social media can for sure promote their entities to first create awareness and then to turn this awareness in to purchase intentions (Evans, 2008). To evaluate the direct impact of brand awareness on willingness to buy of smartphone in the context of millennials from India during Covid-19, the proposed hypothesis is as follows.

H8: Awareness about smartphone brand positively influence the purchase intention of smartphone brand.

2.4.2 Brand awareness and brand attitude

Marketing on social media is a new buzz for the organization as they are concentrating more on social networking sites Facebook, Twitter, Instagram etc. (Brennan & Croft, 2012). While building a new brand, brand awareness is the foremost stride to be taken (Kapferer, 2012) as it is a significant factor in brand equity. Brand recall along with brand

recognition are the two parts which brand awareness can be divided into (Percy & Rossiter, 1992). The aspect of brand recognition appears when consumers are presented with a visual or a verbal cue to test their aptness to discern a brand whereas brand recall allude to the capability to memorize name of the brand when thinking about the category it is linked to (Percy & Rossiter, 1992).

Brand awareness influences the brand attitude (Bruhn et al., 2012). Brand attitude is developed by various encounters, which a customer has while making a purchase. To examine the impact brand awareness exert on brand attitude with reference to smartphone purchases by millennials during Covid-19, the proposed hypothesis is as follows.

H9: Awareness about Smartphone brand positively and significantly influence the brand attitude of smartphone brand.

2.4.3 Brand attitude and purchase intention

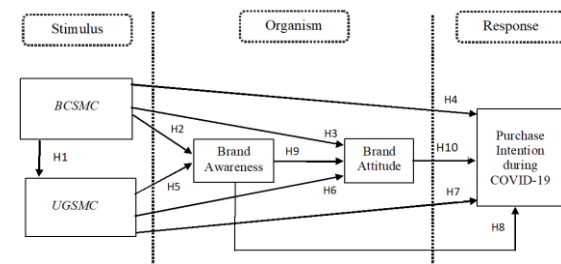
Brand attitude leads to shape behaviours (Spears & Singh 2004), thus leading to intention to purchase (Bagozzi 1981; Spears & Singh 2004). Various research studies relate it to attitude and customer possibility to prefer a brand (Kim & Johnson 2016), so purchase intention predicts the customer future behaviour which depends on their attitudes. As predicting future purchase behaviour of the consumer is very important for marketers as it can become one of the competing factors for the brand, so it is of great significance to estimate purchase intention punctually (Park et al., 2012).

The intention to purchase is the resultant of brand attitude (Spears & Singh 2004), since the behavioural intent is influenced by brand attitude (Wang et al., 2009; Bruhn et al., 2012; Eagly & Chaiken, 1993). On considering the above literature, following hypotheses are proposed:

H10: The brand attitude of Smartphone brand positively influences the purchase intention for smartphone brand.

Thus, in order to examine the associations that are abovementioned, the authors proposed an S-O-R Approach based model. The hypothetical model is exhibited in figure 1.

Figure 1: Research Model Hypothesized through S-O-R approach



3. METHODOLOGY

3.1 Instrument

The present study utilizes the information gathered through a well-structured questionnaire. Out of total 550 filled in questionnaires, a few incomplete questionnaires were rejected to result in 513 valid ones. The questionnaire was drafted in the wake of an extensive literature survey and leading unstructured interviews with a few respondents. Six academics and five practitioners from marketing domain filled in as specialists for assessing the content and wording of items. Based on their suggestions, some items were rephrased.

The final questionnaire was consisted of three parts wherein the first one incorporated the items measuring brand created and user-created brand communication on social media, purchase intention, brand awareness, and brand attitude. All measures were on a 7-level Likert Scale (7 was Very Strongly Agree while 1 was just opposite of that). Table 1 presents a detailed description of the various measures adopted for the present study. Part II detailed the general information from the respondents about social media usage (see Table 2) whereas the Part III reported the demographics of the interviewees (see Table 3). These questions included information consisting of gender, age, educational qualification and family income.

Table 1: Measures used for the Study

Construct	Adapted from
Communication on social media initiated by the brand and generated by the user	Bruhn et al. (2012), Tsiros et al. (2004), Schivinski and Dabrowski (2013)
Brand Awareness	Villarejo-Ramos and Sanchez-Franco (2005), Low & Lamb (2000), Yoo, Donthu and Lee (2000)

Brand Attitude	Villarejo-Ramos and Sanchez-Franco (2005)
Purchase Intention During COVID-19	Shukla (2011) Yoo, Donthu and Lee (2000)

Table 2: Respondents' Social Media Usage

Usage of social media		Frequency
How do you access social media	PC	118
	Laptop	276
	Smartphone	440
	Smart TV	33
	Tablet	47
	Smartwatch	02
Type of social media you use the most	Facebook	322
	Twitter	56
	LinkedIn	70
	YouTube	345
	Instagram	178
	WhatsApp	404
	Pinterest	23
Number of hours a day you spend on social media	1 to 3 hrs	434
	3 to 6 hrs	65
	More than 6 hrs	14

Table 3: Respondents Demographic Profile (N=513)

Demographic Variables		Number of Respondents
Gender	Male	238
	Female	275
Age (Years)	22 - 26 years	194
	27 - 30 years	186
	31 - 34 years	127
	35 - 40 years	6
Education	Up to 10+2	71
	Graduate	160
	Postgraduate	232
	Doctorate	48
	Any Other	2
Family Income (Monthly)	Below 50,000	407
	50,001 to 1,00,000	49
	1,00,001 to 1,50,000	21
	Above 1,50,000	36

Initially, EFA and Cronbach's α scores were espoused to measure items' reliability. For each scale the α score was above 0.70 (see Table 4). The constructs' dimensionality was examined through EFA (varimax rotation). All items were laden on one factor, and it showed that communication on social media initiated

by the brand, communication on social media generated by the user, brand awareness, brand attitude, purchase intention are unidimensional. No evidence of cross loading was reported.

Table 4: Reliability Coefficients of Dimensions

Construct	No. of items	Cronbach's Alpha
Communication on social media initiated by the firm	4	.891
Communication on social media generated by the user	4	.850
Brand awareness	4	.912
Brand attitude	3	.915
Purchase intention During COVID-19	3	.892

Furthermore, the CMB was examined through Harman's test as well as by common latent factor method. For Harman's test, all scale items were laden on an individual factor for extraction using EFA. As the explained variance of 31.32% was less than threshold of 50 percent, CMB was not a matter of concern. In the common latent factor method, the regression weights of both the models, i.e. with and without latent factor, were revealed to have a difference of less than 0.20 (see Gaskin, 2012) and it again proved that CMB was not an issue herein.

3.2 Sample Design

For the determination of minimum size of sample, version 3.1.9 of G*power was used (Sharma et al 2021, 2022c). The power figure of 0.95 and an effect size of 0.05 was achieved with a minimum sample of 269 (Faul et al., 2009). Therefore, a sample of 513 respondents in the current study satisfies the minimum sample size requirements.

Further, in present study, the sampling unit was a millennial, the person born between 1980 and 2000 (Galdames & Guihen, 2020). Both marketers and academics are interested in millennials, as they are computerized locals (Prensky, 2001). They are the one who has spent their whole lives in the advanced condition and there is a significant influence of data innovation on their lifestyle (Bennett et al., 2008). Moreover, millennials

effectively contribute, shares, content via web-based networking media stages.

The primary reason for the selection of millennials is that top organizations are targeting millennials because of the fact that students have an irrefutable hold on social media. Moreover, the research teams of various companies monitoring online movement to best penetrate customer

arraying in-between 0.872 to 0.915, which were well above the 0.70 threshold number (Bagozzi & Yi, 1988). AVE counts ranged in-between 0.633 to 0.783 surpassed the threshold count of 0.50 (see Fornell & Larcker, 1981). All AVE values were lower than CR values (Byrne, 2010). AVE counts were higher than the MSV values (see Table 5), thus affirming the discriminant validity (see Hair et al. 2010).

Table 5: Validity & Reliability

Construct	Cronbach's Alpha	CR	MSV	AVE	FCSMC	BAWA	BAT	PI	UGSMC
FCSMC	0.915	0.915	0.404	0.783	0.885				
BAWA	0.891	0.892	0.161	0.675	0.089	0.821			
BAT	0.850	0.872	0.161	0.633	0.122	0.401	0.795		
PIDC	0.912	0.913	0.404	0.725	0.636	0.263	0.219	0.852	
UGSMC	0.892	0.892	0.278	0.735	0.527	0.113	0.214	0.526	0.857

[Source: Authors' own. Note: CR- Composite Reliability, MSV-Maximum shared variance, AVE- Average Variance Extracted, FCSMC-Communication on social media initiated by the firm, BAWA-Brand awareness, BAT-Brand attitude, PI-Purchase Intention During COVID-19, UGSMC- Communication on social media generated by the user]

interaction posit that millennials are more active on social media as compared to other generation. The data was collected from various cities of Punjab, namely Chandigarh, Ludhiana, Amritsar, and Jalandhar. These cities were selected after giving a due consideration to the aspects of urbanization and contribution to the economy of the state (Punjab Economic Survey, 2021). With an objective to understand the social media usance, respondents active on social media were only asked to fill in the questionnaire.

4. RESULTS

The descriptive and inferential analysis for the study was carried out mainly through percentages and chi square test respectively. The statistical tools employed for the analysis of data were SPSS 20.0 and AMOS18.0.

4.1 Measurement Model

The model comprising of all the constructs, namely brand awareness, communication at social media initiated by the brand and rendered by user, brand attitude, and purchase intention, was tested. AVE, average shared squared variance, composite reliability, and maximum shared squared variance were used to establish convergent and discriminant validities (Hair et al., 2010). CR values were

Using the covariance matrix, the model fit compared the theory to data (Hair et al., 2010), and the proposed theory was revealed to have met the threshold values required for the model fit. All the indices of model fit were reported as Chi-square/df= 3.138, TLI=0.949, RMSEA=0.065, NFI=0.940, IFI=0.958, CFI=0.958, and RFI=0.926. Based on threshold criteria, the model was found to be a good fit.

4.2 Structural Model

The model fit indices were recorded as - Chi-square/df = 3.273, CFI = 0.947, RFI = 0.912, NFI = 0.926, IFI = 0.947, TLI = 0.937, GFI = 0.902, AGFI = 0.873, and RMSEA = 0.065. Overall, SEM model of the study came out to be the good fit as goodness and badness of fit indices were within threshold limit (Baumgartner & Homburg 1996). The findings pertained to the parameter indices show that, except for UGSMC→BAT and FCSMC→PI, the magnitude of critical ratios for all the associations was bigger than 1.96. Further, the standardized estimates for all but UGSMC→BAT and FCSMC→PI were not significant. Accordingly, excepting H4 and H6, all hypotheses are supported (see Table 6). Discussion on this is reported in Section 5 of this manuscript.

Table 6: Research Hypotheses Testing

Hypothesis	Path	Standardized Estimate	Critical Ratio	p-Value	Hypothesis Supported
H1	FCSMC→UGSMC	0.052	8.076	***	Supported
H2	FCSMC→BAWA	0.054	3.927	***	Supported
H3	FCSMC→BAT	0.042	-1.986	***	Supported
H4	FCSMC→PIDC	0.054	-0.972	0.331	Not supported
H5	UGSMC→BAWA	0.051	2.573	***	Supported
H6	UGSMC→BAT	0.039	0.330	0.741	Not Supported
H7	UGSMC→PIDC	0.050	2.702	0.007**	supported
H8	BAWA→PIDC	0.066	5.169	***	Supported
H9	BAWA→BAT	0.043	13.624	***	Supported
H10	BAT→PIDC	0.070	5.636	***	Supported

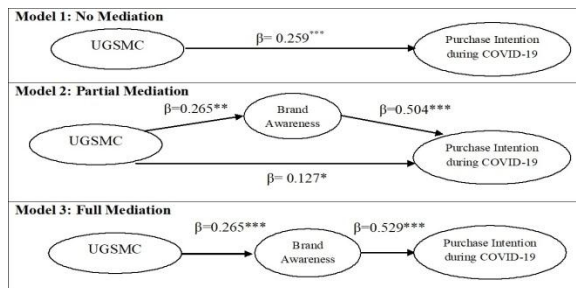
[Source: Authors' own. Note:-FCSMC-Firm Created Communication on social media, BAWA-Brand awareness, BAT-Brand attitude, PI-Purchase Intention During COVID-19; UGSMC- Communication on social media generated by the user, *** $p < 0.001$, ** < 0.05]

4.3 Mediation Effect

Three competing models were formed to test the relationship between purchase intention and SMC generated by user through the brand awareness's mediation.

The findings in this regard reveal that user generated SMC exerts a positive impact on the purchase intention in the absence of brand awareness ($\beta = 0.259$, $p < 0.001$) (see Model 1) and SMC generated by user has a positive impact on the brand awareness ($\beta = 0.265$, $p < 0.001$) (see Model 2). Furthermore, it also reveals that the impact of user generated SMC on purchase intention was substantially reduced from 0.259 to 0.127 in the comporment of brand awareness.

Figure 2: Competing Models in Examining the Mediating Effect



[Source: Authors' own. Note: UGSMC-Communication on social media generated by the user,*** < 0.001 , * < 0.05]

It reveals that the Model 3, which assumed complete mediation, exhibited better model fit

as compared to Model 2, which assumed partial mediation. Hence, it is concluded that the relationship in between user generated communication on social media platform and purchase intention is completely mediated by brand awareness.

Table 7: Competing Models

Direct Effect	Model 1	Model 2	Model 3
UGSMC→ PIDC	0.259***	0.127*	
UGSMC→ Brand Awareness		0.265***	0.265***
Brand Awareness→ PIDC		0.504***	0.529***

Source: Authors' own. Note:-UGSMC-Communication on social media generated by the user; PI-Purchase Intention During COVID-19, *** < 0.001 , * < 0.05 .

5. DISCUSSION

When the pre-existing research (see Bruhn et al., 2012; Hajli, 2013) has largely been confined to check the influence social media brand communication exerts on brand equity across different industries, this study, in its own unique way, investigates the influence of social media conversations of smartphone brand on consumer brand metrics during COVID-19. The findings pertained to the effect of SMC of a smartphone brand on the user generated communication during COVID-19 go well with Godes & Mayzlin (2009) who remarked that communication initiated by the brand on social media rouse the

communication generated by the user on social media. It is so because the brands indulged in user-generated content engages with the customers, leaves a long lasting impression on customers minds (Mangold & Faulds, 2009), and leads to have a positive impact on user-generated content (Ceballos et al., 2016).

The findings regarding the impact of brand initiated and user generated communication on the brand awareness commensurate with Schivinski & Dabrowski (2015), Godes & Mayzlin (2009), Burmann & Arnhold (2008) in the present context of Covid-19. It might be that incremental hours being spent on social media by users during COVID-19 allow them to indulge in creating, sharing and consuming of content regarding smartphone brands, which then causes their awareness level regarding smartphone brand to rise. Further, brand awareness of smartphone brand is revealed to have a significant influence on the brand attitude, which is in agreements with Bruhn et al., (2012); and Fishbein & Ajzen (1975).

The findings that brand awareness and brand attitude influence the purchase intention of the smartphone brand is in line with Hutter et al., (2013); Lu et al., (2014); Bruhn et al., (2012); Balakrishnan et al., (2014); and Eagly & Chaiken, (1993). As the contact tracing and vaccine registration through smartphone based app Aarogya Setu in India (Basu, 2021; Nagori, 2021) has pressed for smartphone requirements, the purchase intention of users are being influenced positively and brand awareness, along with brand attitude, is playing its due role in it. It is surprising to note that the study finds that the communication initiated by smartphone brand on social media does not influence the purchase intention. This result of the study is in disagreement with the research work of Schivinski & Dabrowski (2016). It might be that most of the users are facing job loss and salary reductions during Covid-19 (Islam, et al., 2020), and they find users generated posts, reviews and mentions more trustworthy for saving on purchases.

5.1. Theoretical Implications

During the COVID-19, it is quite surprising that the consumers are experiencing two contradicting phenomena of abundance and

scarcity concurrently. On abundance, the scenarios like stay home regulations (Bates et al. 2021; Chakraborty, Kumar, Upadhyay, & Dwivedi, 2020), online classes (Kundu & Bej, 2021), retrenchments (Shulga & Busser, 2021), and work from home (Jenkins & Smith, 2021) culture across the globe have left the consumer with ample spare time, which has again incremented the hours spent by them on social media by a few hours on a day-to-day basis (Tankovska, 2021; Morgan Stanley Research, 2020). It has left the consumers with abundance of content, which they either create, or share, or consume online. On scarcities, the source scarcity is being experienced through job losses, salary cuts, non-availability of product, manpower, and services etc., while social comparison is being dealt with self-regulation (Cannon et al. 2019) etc.. The choice restriction is being faced through evaluation, selection, and consumption of products and services available to them as per the restrictions, whereas the environmental uncertainty is being experienced through panic purchase (Omar, Nazri, Ali, & Alam, 2021), postponing the purchases (Sheth, 2020), stocking (Bandyopadhyaya & Bandyopadhyaya, 2021), etc. Thus, consumers nowadays are dealing with all the four scarcities, namely resource scarcity; social comparison; choice restriction; and environmental uncertainty, (see Hamilton et al., 2019) in unique way with the due assistance of social media. Therefore, whether it is scarcity or it is abundance, consumers are nowadays on social media with incremented hours while creating, sharing, and consuming the content. In this scenario, it becomes evident to examine how the incremented creation, sharing, and consumption of online content will influence purchase intention of smartphone in the context of an emerging country India wherein the inception of contact tracing and vaccine registration through smartphone-based app AarogyaSetu (see Basu, 2021; Nagori, 2021) has pushed the smartphone demand to all new levels. This research attempts to it and accumulates the theory by revealing that stimuli increment significantly entices the organism, which then further moulds the response. Besides it, by unravelling the disagreement and intricacies between the brand initiated and user generated communication on the social media platform, this study adds to the theory by suggesting that brand initiated

communication does affect purchase intention of consumers, but in a different way, specifically through user generated brand communication (Sonnier et al., 2011). Thus, the contrasting impact of both form of communication on social media indicates that customers not only react to the information, but also take into consideration the sources of online content.

5.2. Managerial Implications

Besides being theoretical insightful, this study renders managerial propositions of import as well. The finding suggests that the smartphone brands should re-evaluate their current social media content to qualify for positive user generated content. By doing so, they can better deal with the selective attention; selective distortion; and selective retention (Sen, & Sengupta, 2021) of the prospective customers during the current phase of information overload (Xie, & Tsai, 2021). While developing customer-to-customer SMC brands should be very careful as it can sometimes backfire. Brand managers should focus on building social media emotional attachment of customers towards the brand, which has multiple benefits of providing credibility, and enhancing satisfaction towards the brand. Marketers should provide with an opportunity of co-creation to the consumers by building synchronous and non-synchronous capacity within social media. Along with the monitoring of what is being written and who is writing, no negative customer feedback should go unnoticed and unanswered as it can really be a setback for the brand. The collective efforts of communication initiated by the brand and user on social media offer abundant opportunities for enhancing brand equity. Additionally, brand managers while targeting the customers on social media can keep the audience attracted by informing them about discounts, special offers, etc. as customers are becoming more deal prone during COVID-19 because the aspects of job losses, pay cuts and losing the breadwinner have incremented the utility to be drawn from each single penny manifolds. Furthermore, organizations could come up with an idea of providing extra discounts to the customers who would present a discount code that could be downloaded from the organization's social media platform.

5.2 Limitations and Directions for Future Research

Though present research is insightful for practitioners and researchers, it has some limitations too. First, the data was gathered from Punjab cities i.e. Jalandhar, Ludhiana, Amritsar and union territory Chandigarh, therefore, a generalization of the findings is limited to Punjab region only. Future studies can explore other cities of India and analyse sub-groups, which, in turn, could provide a more precise picture. Second, this study was of quantitative nature wherein survey questionnaire method was used for collecting the data. Future studies can also espouse interviews and focus group discussions to acquire more comprehensive consumer insights and responses. Third, this study only considered SMC done by smartphone brand. Future studies can investigate some other industries to display an appropriate picture of the different mechanisms that operates with brands from diverse industries. Last, the present study mainly focused on millennials, a generational group possessing the highest purchasing power (Moreno et al., 2017; Bolton et al., 2013) and using social media the most (Chatzigeorgiou, 2017). Future studies can analyse other generational groups as well.

6. CONCLUSION

Marketing is now getting transformed from Marketing 4.0 to Marketing 5.0 and the spin-offs of COVID-19, like stay home restrictions, online classes, work from home etc., are playing the role of catalysts in this. Consumers are experiencing two contradicting phenomena of abundance and scarcity concurrently where in H2H marketing (Kotler, Pfoertsch, & Sponholz, 2021) of information through social media is playing a predominant role. The numbers of hours spent on social media are getting incremented (Tankovska, 2021; Morgan Stanley Research, 2020) and so are the creation, consumption and sharing of content. In these circumstances, it becomes quite evident to examine how the incremented engagement with online content will influence purchase intention of smartphone in the context of an emerging market of India wherein the inception of contact tracing (Fahey, & Hino, 2020) and vaccine registration through smartphone-based app AarogyaSetu (Basu, 2021; Nagori, 2021) has pushed the smartphone demand to new highs. Through the SOR approach (Mehrabian & Russell, 1974), this study facilitates a detailed analysis

of the social media impact on consumer brand metrics of smartphones during COVID-19 for Indian millennials.

Our findings highlight that communication initiated by the brand has no direct effect on intention to purchase smartphone brand, but indirectly it was found to influence the purchase intention of smartphone brand through brand awareness. Whereas SMC generated by the user for smartphone brand positively influences purchase intention and brand awareness of smartphone brand. Besides it, the findings also revealed that the communication initiated by the brand on social media for smartphone brand during COVID-19 has a considerable positive impact on communication generated by the users on social media for smartphone brand. These findings provide adequate support to recognize the proposed framework as a valuable tool while future prospects and gauging the validity of current approaches. Thus, besides being insightful to the marketers on how they can target this cohort in a better way, this research bestows to existent literature on how the communication on social media influence the brand metrics of a high involvement purchase when incremented hours are being spent on social media due to lockdowns and home stay restrictions.

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ONLINE OFFICIAL DESTINATION PROMO VIDEOS' INFORMATIVENESS AND COMMENTS' VALENCE'S EFFECT ON VISITING INTENTION TO RISKY DESTINATIONS

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ABSTRACT

Social media is becoming a growing research topic nowadays, especially in destination- promotion, information search and prospective tourists' decision-making behaviours. Destination promo videos (DPVs), especially the online ones, are among the most important information sources of travel decision-making for their interactive and sharing features. This study examined the influence of the perceived informativeness of social media official DPVs (ODPVs), and their comments' positivity, on perceived destination risk and visiting intentions to risky destinations. The results showed that the of comments' positivity reduces perceived destination risks, and the respondents trust the online ODPV's perceived informativeness. Their trusts made the perceived destination risks to be less. Lesser perceived destination risks improve behavioural intention in visiting there. This study results would be beneficial for those who are focusing their researches on social media DPVs and their informativeness as part of their destination-promotion strategy, especially risky destinations.

Keywords: social-media; destination-promo-videos; perceived-destination-risks; risky-destination; perceived-informativeness; positivity-of-comments;

1. INTRODUCTION

Risky destinations suffer a lot in their countries' economy development, mainly in the tourism sector (Ibrahim, 2015). It is very important for the prospective tourists to know and be able to perceive the destination as safe enough to travel (Karl, 2018), which leads to this challenge; how destination marketing organizations (DMOs) can promote that place or destination, so that prospective tourists can visit in future. Several tourism and destination related studies were conducted in the area of risk perception and visit decision-making, which indicate a decline of tourism demands in those destinations (Ibrahim, 2015). Most tourists tend to avoid risky destination (Neuburger & Egger, 2021), because safety and

security always become the first priority while travelling (Hajibaba et al., 2015). Hence, perceived destination risks and ways to reduce those, caught growing attention in the tourism and travel literatures by the researchers, destination marketers and stakeholders, and thus led to this study.

Prospective customers have amplified social media usage for getting information about products, places or services, see and compare more related products that are available, and make the final decision-making (Kulkarni & Mohapatra, 2021; Sharma, 2021). Social media promotions or advertisements are very effective in affecting the customers' purchasing intention (Chawla, 2020; Sharma et

al., 2022a, 2022b), and became a significant resource of retrieving online information (Barcelos, et al., 2019; Sharma, 2021). This not only helps the destination marketers, but also helps prospective tourists to avoid risks (Narangajavana et al., 2017) and finalising buying decisions by retrieving information related to the place. Informativeness of online social media applications or websites helps in reducing perceived risks related to the product, services, or destination one intends to get or purchase (Pavlou et al., 2007), or visit, thus improving tourism of that place. Hence, destination promo videos (DPVs) could be one of the strategies as DPVs can change tourists' destination view and can create a positive image in mind (YanJun et al., 2014), and can improve an image of a country positively, even if it is risky destination (Firoz et al., 2020). It is seen that official DPVs (ODPV) became a popular method to attract tourists' attention (Fong, et al., 2018), and influence their visiting intentions (Firoz et al., 2020). However, very few studies were conducted on the use of DPVs' informativeness on reducing risks and visit decision-making (Gong & Tung, 2017), in respect of risky destination, hence became a research gap for this study.

Customers seek supportive information from the online comments to reduce the related perceived risk and uncertainty (Park & Lee, 2009). Same goes while selecting a destination – destination promoters are concerned regarding the effects of the positive comments' valence for their businesses, similarly for hospitality managers (Goßling et al., 2018). Positive comments are seen to perform an important role in influencing future bookings of prospective tourists (Mauri & Minazzi, 2013). More detailed researches are required, in respect to comment's valence or positivity, to lessen the perceived destination risk and influence prospective tourist's decision-making to visit these places and make them flourished again. Hence became a scope of research for this study.

The main objective of the research was to assess online ODPV' informativeness and its comments' positivity's influence on perceived destinations risk and visit decision-making behaviours towards risky destination. For this study, one of the most beautiful heritage tourism destination, Egypt was chosen to be the risky destination, because the negative

occurrences there like, terrorism-attacks, political-instabilities, pandemics and the uncertainties of getting impacted by them, affected the travel and tourism economy, and declined their GDP (WTTC, 2018).

Concerning the significance of the study, some researchers are studying incessantly and finding ways on improving the tourism sectors of these "risky destinations", from different aspects and viewpoint, because some countries' economies are mostly supported by tourism sector. Hence, this study results might be helpful to DMOs or any researchers to know whether ODPVs' informativeness and the comments' positivity, really helps or otherwise in creating a visit-decision to a risky destination.

2. LITERATURE REVIEW

2.1 Positivity of Comments

Comments valence is delineated as the 'tone or preference' of comments, and are usually conveyed in positive, negative, or neutral opinion for the company, product place, service, firms and/or other prospective customers or consumers (You, et al., 2015). Comments with more positive valence, lead to more positive customer attitudes and increased buying intentions (Tata, et al., 2020). Viewers mostly rely on online comments to reduce the risk and uncertainty related to any selection of service, place, or purchase of any products (Park & Nicolau, 2015), because they consider them as trusted information sources (Filieri, 2015). Therefore, it can be said that online comments strongly affect any prospective customer's purchase decisions (Lata & Rana, 2021).

The valence of online comments affects a prospective customer's decision-making (Kwok et al., 2017). Positive comments are also seen to perform an important role in influencing future bookings of prospective tourists (Xia et al., 2022). However, the effects of positive comments of the ODPVs on perceived destination risks and visiting intentions are still at its beginning. The assumption now is the influence of comments' valence might influence the perceived destination uncertainties positively, and help in boosting tourism economy, and thus became a gap for this study.

2.2 Perceived Destination Risk

Perceived risks in tourism and travel behaviour are studied from varying aspects including

destination risks such as political, financial, psychological, risks related to health, terrorism, environmental disaster, and many more (Alfandi, 2020). Sharifpour et al. (2014) explored the Middle East destination risk perception in their study; they identified three different destination risk types; (a) physical risks, (b) travel-related risks, and (c) destination-related risks, all of which are used for this study. Perceived destination risk is defined as a tourist's perception of something happening in the destination in the future, which might lead them to risky situations, and eventually might influence their travelling if the risk is beyond tolerable level (Reichel et al., 2007). In tourism, perceived destination risks influence tourists' choices of places to visit, their travel decision-making and their travel behaviour (Mine Ozascilar et al., 2019).

Nowadays, the use of social media applications influences travel-risk perceptions among tourists by providing vast information through sharing comments, reviews or user-generated contents (UGCs) from the former tourists or by DMOs (Uslu & Karabulut, 2019) or by destination-related news, videos or DPVs shared online (Brodien Hapairai et al., 2018). However very little has been focused on the relationship of ODPV's comment's positivity and lessen their destination risk perception and eventually becomes a knowledge gap in the related field.

2.3 *Perceived Informativeness of ODPV*

Advertising informativeness portrays helpful and resourceful information (Du et al., 2015), and can be delineated as the value of information, conveyed by media in the form of texts, images, or videos (Sun, Han, & Feng, 2019). Advertisement informative content in social media positively affects their perceived value (Pintado et al., 2017). Perceived informativeness is delineated as "the extent to which the post messages include informational content". In social media promotion, informativeness is related with the fact that this media offers related and high-quality information about a product or services (Arli, 2017). From previous studies in social media or new media advertisements, several researchers found that informativeness of the message conveyed through videos, are mostly studied in the social media context (Mao & Zhang, 2017; Windels et al., 2018).

The related literatures convey that informative social networking sites (SNSs) or online advertisements provides the viewers the information to make an effective decision for future purchases. In tourism and travel context, although DMOs' DPVs are promising forms of online destination advertisings, these advertisement forms have not been sufficiently studied in the research, especially related to its informativeness effect, thus becoming a gap in this study.

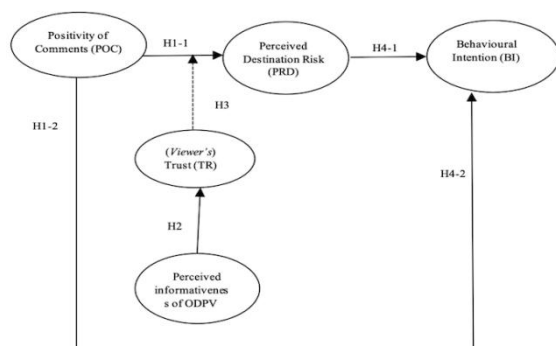
2.4 *Viewer's Trust*

Trust is defined by Agag and El-Masry (2017) as "the subjective belief that the online service provider will fulfil its transactional obligations, as those obligations are understood by the consumer" (Sadiq et al., 2021). Trust is an important element in knowing customers' behaviours while online shopping (Cheng et al., 2019). This is a critical element in online tourism contexts and should be understood that potential customers or tourists avoid making online purchase or take any visit decision-making, if there is lesser trust in the information provided (Ladhari & Michaud, 2015). Customers' purchasing intentions, or visit decision-making, through online platforms are significantly inclined to trust (Rashid et al., 2022). Trust plays a vital role in serving customers to overcome uncertainty and risk perceptions while purchasing online (Kim, Ferrin, & Rao, 2008). There a number of studies using trust as mediating variable (Oghazi et al., 2018; Rizal et al., 2020) and moderating variable (Al-Ghraibah, 2020; Bhatti et al., 2021) and few related to perceived risk factor regarding buying intention (Ng, 2013; Tedeschi, et al., 2017). However, in tourism and social media literatures, not many studies focused on trust factor as moderating variable in respect to perceived destination risks.

2.5 *Theoretical Framework*

This study employed perceived risk theory and trust theory in developing a research model that might help to assess the official DPV's informativeness and its comments positivity influence on destination risk and in travel decision-making. The moderating role of viewer's trust towards the relationship between positivity of comments and perceived destination risk is implied, to assess their influence on visiting intention. Figure 1 shows the proposed research model.

Fig:1 Proposed Research Model with Hypotheses



3. HYPOTHESIS DEVELOPMENT

In tourism researches, comments or reviews are perceived as a marketing tool with significant influences on the tourism sector (Kamble et al., 2020), and that media of any type, including social media, affects risk perceptions (Pennington-Gray et al. 2011). It is seen that positive online comments' information can influence in reducing tourists' risk perceptions while reserving accommodation (Gretzel, et al., 2007), and in reducing med-tourists' uncertainty and perceived risks when selecting a place (Abubakar, 2016). Online comments can efficiently decrease the uncertainty and risk during online purchasing by creating online trust and reducing perceived risk (Al-Debei et al., 2015). Particularly, positive comments aid to create high online trust and help to alter customers' attitude and perceptions, and thus lessen their perceived risk (Al-Debei et al., 2015). However, there are not many researches on positivity of online comments related to destinations risk perceptions and their effects on the particular destination visits. Therefore, the following hypothesis is proposed:

H1-1: Positivity of comments (ODPV's comments) have a significant effect on perceived destination risk.

Starting from early times, 'Word-of- Mouth' (WOM) had and still have a very strong effect on travelling decision-making (Apostolopoulou, et al., 2018). EWOM or online comments significantly affect buyers' picks (Filieri & McLeay, 2014), and their valence affect a prospective customer's decision- making (Kwok et al., 2017). This means that more-positive comments' valence can lead to increased buying intentions (Lin & Xu, 2017; Tata, et al., 2020). There are a number of studies that gave

attention to the positive eWOM and behavioural intention in the related literatures (Alcaniz et al., 2009; Huang, et al., 2015). Many tourism and travel research studies supported that, online comments can impact intentions of travelling (Filieri & McLeay, 2014; Siang, et al., 2020). Researchers supported that positive comments' information can increase booking intentions and room sales (Chan et al., 2017). In the tourism literature, there are not many studies regarding online comments' valence/positivity effects and intentions to visit tourist destination. Hence, it may be said that comments' valence may influence visit intention to risky destination such as Egypt. As such, the following hypothesis was proposed:

H1-2: Positivity of comments (ODPV's comments) have a significant effect on behavioural intention to visit risky destination.

It is seen that informativeness of any social media promotions has a positive influence on customer loyalty towards a brand (Hanaysha et al., 2021). Moreover, social media's official DPVs (ODPVs) are found to influence tourists' attitude and visit intention positively (Guerrero-Rodríguez, et al., 2020). In respect to that, if an ODPV could provide ample and detailed information clues about the risky destination to the viewer or user, and offer that information in full, with accuracy, reliability and many more, their perceived informativeness might be high and the level of their trust on them would increase, leading in decreasing the level in perceived destination risks. Trust can play the role of a risk-reducer among new online-prospective customers or consumers or users, which may work to influence the consumers' decision to carry on any online transactions or decision-making through online information (Zhao et al., 2018). It plays a vital part in relating to online sellers (Kim et al., 2011; Jain et al., 2021). However, very few researches have been carried out on promotional videos' informativeness in relation to trust, especially in social media platforms. Trust is a very important feature in social media, as it enables the interchange and usage of information in the tourism sector (Nunkoo & Smith, 2015). In light of these, the subsequent hypotheses were anticipated:

H2: Perceived informativeness of ODPVs has a significant and positive effect on viewers' trust.

Trust factor are seen to influence on reducing purchasing risk and increasing buying intention (Hajli et al., 2017). In social networks platforms, trust has also been found to have significant effects, where word of mouth (WOM) or online comments, can reduce perceived risks (Kim & Park, 2013; Arya et al., 2019, 2018-a, 2018-b, 2018-c). Trust was used as a moderator in some recent studies related to e-commerce or tourism related studies related to online (Al-Ghraibah, 2020; Sadiq et al., 2021), and few related to perceived risks regarding buying intention (Ng, 2013; Tedeschi, et al., 2017). However, not many tourism researches have focused on trust factor as a moderator in relation to perceived risks regarding destination. Considering this and from previous related literatures, it can be said that viewers' trust can be used as a moderator to the relations between positivity of comments' perceived information and perceived destination risk. This means that if the positivity of comments reduces the perceived destination risk, viewers' trust might make it lesser. Thus, the following hypothesis was developed:

H3: The negative relationship between positivity of comments and perceived destination risks will be stronger when viewer's trust is higher.

Any unsafe or damaging occurrence in a place can alter the level of destination risk perception and can reduce tourist arrivals (Chew & Jahari, 2014). There are studies on the perceived risk effects on customer behaviour intention in different areas, like travelling to places (Adam, 2015; Sharipour et al., 2014). The perceived destination risks (terrorist risk) create negative effects on behavioural intentions (Carballo, 2021). Interestingly, Isaac (2021) found that many tourists might still choose to visit a country even if it is perceived risky to travel to. Brodien Hapairai et al. (2018) showed that reducing destination risk perceptions through media likely to increase the eagerness to visit those destinations. Reducing perceived risk can influence tendency for more behavioural intention (Tavitiyaman & Qu, 2013). Thus, it can be assumed that perceived destination risks perform averting roles in tourists' destination choice and visit intention, especially in relation to risky destination or destination with negative image. However, if the perceived risk is less, tourists might intent to visit there. Hence, the subsequent hypothesis was anticipated:

H4-2: Perceived destination risk have a significant effect on behavioural intention to visit risky destination.

4. METHOD

4.1 Measurement Items and Scales

Perceived destination risk (PRD) was measured with 20 items adapted from the studies by Sharifpour, et al (2014) and Sharif & Mura, (2019). For the perceived informativeness of online ODPV(PIV), is measured by 5 items, which were adapted from the study Taylor, Lewin, & Strutton, (2011), and was modified according to the study. All these items were assessed on 7-point Likert scales ranging from 1, which denotes "Strongly Disagree", to 7 denoting "Strongly Agree". Positivity of comments (POC) adapted from Sparks and Browning (2011) and Wang et al. (2012), and were modified according to the requirements of the study. A 7-point Likert scale, ranging from 1 denoting "Strongly Disagree" to 7 denoting "Strongly Agree" measured, "Overall, I felt the provided comments' information were more positive than negative", and 1 denoting "Not at all positive" to 7 denoting "Very positive" which measured "How do you rate the overall positivity of these comments?". Viewers' trust (TR) was a moderating variable, and its measurements was adapted from Mpinganjira (2015). The measurement items were modified according to the requirements of the study. For example: The perceived informativeness of the DPV is: "TR1- Unbelievable/ Believable" and were assessed on 7-point Likert scales, ranging from 1 denoting "Definitely Unlikely" to 7 denoting "Definitely Likely".

4.2 Sample and Data collection

International students and young tourists share various characteristics because both are considered as sojourners (Jamaludin et al., 2016). It is seen that, university students were considered as samples in many studies related to young tourists (Gianchio et al., 2021; Khan 2019). Hence young tourists of Malaysia, were chosen for this study too, despite of their country of origin, for the convenience of the study. With the help of using *Morgan's Table for Sample Size*, determining sample size, 384 students at least (both locals and foreigners mixed), were considered to be the targeted sample size, with 5% margin of error and at a 95% confidence level. To overcome the issues of unusable cases, low response rate, and to be

on the safe side, the researcher (of this study) collected around double than the determining sample size to ensure that the participants totally agreed to partake in the study. For risky destination, as stated earlier, Egypt was chosen; and for the ODPV, the country's award-winning ODPV "*This Is Egypt*", was chosen because, it won the best tourism promotional video in the Middle East at the General Assembly of the World Tourism Organization (WTO) in China, beating out 63 other contestants in 2017 (UNTWO, 2018). Malaysia is chosen for the respondents because it is a multicultural country and is one of the popular countries for higher education in South-East Asia, and represents totally the opposite tourism attractions and destination attributes than that of Egypt.

Due the current pandemic situation, emails and social networking applications like LinkedIn, email, etc., were viable choice of collecting data, so that the respondents can easily access and answer in their convenient times safely. Convenience sampling and judgemental sampling, were used. Judgemental sampling technique was chosen by the researcher of this current study because, some criteria like: the participants should be 18 years and above, a student, have an intention of travelling to outbound locations and have never been to Egypt before, were applied to select the most appropriate samples from the target population, to meet the researcher's interests regarding the objectives of this study. A total of 720 responses were collected through self-administered online questionnaires (Sharma et al., 2021, 2022a, 2022b), and only 609 responses were found to be useful for the study. SPSS and PLS-SEM were considered to be the best statistical tools for conducting data analysis for this study and IBM SPSS 26 and SMART PLS 3.3.2 software were used.

Table 2: Confirmatory factor analysis, reliability and convergent validity of constructs

Construct		Loading	Cronbach's Alpha	CR	AVE
Perceived Informativeness of ODPV (PIV)		0.866	0.927	0.945	0.774
The video is a valuable source of information about the country		0.873			
The video provided relevant destination information.		0.898			
The video provided a good source of up-to-date destination information		0.882			

5. ANALYSIS

The demographic profile, showed in Table 1, portrayed around 63% were female and 37% of the respondents were male, and most of the respondents, 53%, were in the age group of 21-23 years, followed by 18-20 years, which is 34%.

Table 1: Demographic Profile of Respondents

	Category	Percentage (%)
Gender	Male	37
	Female	63
Age group	18-20	34
	21-23	53
	24-26	10
	Above 27	3
Total		100

Table 2 presents a summary of the measurement model along with the factor loadings, means, standard deviations, composite reliability (CR), average variance extracted (AVE) and Cronbach alpha. The corresponding constructs and the loadings are ranged from 0.596 to 0.919. Accordingly, the CR values are ranged from 0.940 to 0.970, hence exceeding the acceptable value (> 0.70) (Hair et al., 2017). AVE values also exceeded the cut-off value of 0.50 except for PRD= 0.472 (Fornell & Larcker, 1981). If the AVE's value is less than 0.5 but if composite reliability (CR) is greater than 0.6, the construct's convergent validity is still satisfactory (Fornell & Larcker, 1981). Thus, all constructs of this model have a high level of internal consistency reliability and sufficient convergent validity. All Cronbach's alpha values are more than the minimum standard for reliability of 0.70 (Nunnally & Bernstein 1994), indicating good internal consistency.

The video made the destination information immediately accessible.		0.880			
The video is a convenient source regarding the destination information					
Viewer's Trust (TR)			0.941	0.953	0.773
Perceived informativeness is believable		0.855			
Perceived informativeness is trustworthy		0.903			
Perceived informativeness is convincing		0.825			
Perceived informativeness is credible		0.909			
Perceived informativeness has high integrity		0.892			
Perceived informativeness is dependable		0.889			
Positivity of Comments (POC)			0.939	0.970	0.943
Overall, I felt the provided comments' information were more positive than negative.		0.968			
How do you rate the overall positivity of these comments?		0.974			
Perceived Destination Risk (PRD)			0.939	0.944	0.472
I might have a disappointing experience there.		0.772			
This trip might be a waste of time for me.		0.798			
I may get a bad value for money from visiting the destination.		0.852			
My friends/family may disapprove this holiday there.		0.734			
I might have some cultural misunderstanding there.		0.682			
I might experience the unfriendliness of the residents there.		0.819			
I might face difficulties in communicating.		0.596			
I might get discriminated based on my gender.		0.646			
There is a possibility of being involved with a terrorist act.		0.801			
There might be political unrests of the country visiting.		0.824			
I might become a crime victim there.		0.826			
There's a risk of transmissible diseases in that country.		0.777			
I might have accident.		0.804			
There might be problems with regards to food safety.		0.765			
I might face unexpected extra expenses.		0.663			
The natural environment there might be hostile.		0.819			
I might not receive holiday benefits or have bad hospitality performance while visiting there.		0.873			
I might face some technical, mechanical, or organisational problems during travel or at destination.		0.851			
I might become a victim of natural disasters there.		0.728			

Behavioral Intention (BI)					
I plan to travel to Egypt in the near future		0.906	0.914	0.940	0.796
I will make an effort to travel to Egypt in the near future		0.846			
I have an intention to travel to Egypt in the near future		0.896			
I am willing to travel to Egypt in the near future		0.919			

Figure 2 shows the direct path-values along with R^2 values. Focusing on f^2 , POC was shown to have small effect on PRD ($f^2 = 0.129$) but no effect on behavioral intention (BI) ($f^2 = 0.001$), and PIV showed medium effect on TR ($f^2 = 0.245$).

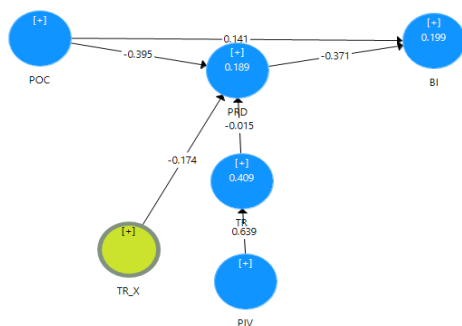


Fig 2: The research model with the path-values of direct relations and R^2 values (on the construct)

5.1 Hypothesis Testing

The result showed that positivity of comments has significant but negative effect on perceived destination risk ($\beta_{POC \rightarrow PRD} = -0.384$, $t = 8.831$, $p < 0.001$) and has no significant effect on behavioural intention ($\beta_{POC \rightarrow BI} = 0.011$, $t = 0.430$, $p > 0.05$), which means that hypothesis H1-1 is supported and hypothesis H1-2 is not supported. Perceived informativeness of the online official destination promotional video (ODPV) has positive and significant effect on viewers' trust ($\beta_{PIV \rightarrow TR} = 0.379$, $t = 9.350$), supporting the hypothesis H2. Perceived destination risks have negative significant effect on behavioural intention ($\beta_{PRD \rightarrow BI} = -0.052$, $t = 2.155$, $p < 0.05$), which support hypothesis H4. To test the moderating effect, this study used the product-indicator method as recommended by Henseler and Fassott (2010). The interaction term between the viewers' trust and perceived destination risk was created, but before doing this AVE, CR and discriminant validity had been evaluated and check for their validity. From Table 2 it is seen that R^2 for the main model was 0.145 and

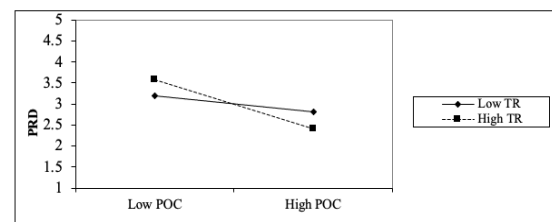
after the addition the moderating variable interaction term, it changed to 0.187. The R^2 change of 0.042 shows that with the addition of the interaction term (POC*TR), the R^2 has improved about 4.2% (additional variance). The beta coefficient for the interaction effect of POC*TR is -0.195, with $t = 5.162$ and $p < 0.001$. Hence, hypotheses H3 was supported. The effect size f^2 , as suggested by Kenny (2016), was 0.051 and showed large effect size. Table 3 portrays R^2 values' differences with effect size.

Table: 3 R^2 values' differences with effect size

	Moderating Interaction effect Included	Moderating Interaction effect Excluded	f^2 -squared	Effect size
R-squared	0.187	0.145	0.051	large

As suggested by Dawson (2014), the interaction effect was plotted to see how the moderator changes the relations between positivity of comments (POC) and perceived destination risk (PRD). The result is portrayed in Figure 2. The line labelled as high TR has a steeper gradient when compared to low TR, indicating that the negative or inverse relationship between positivity of comments (POC) and perceived destination risk (PRD) is indeed stronger when TR is high. This means that means that if the perceived risk is less, viewer trust makes the perceived destination risks lesser, and thus making the relation stronger.

Figure 2: Interaction effect of moderating variable Viewer's Trust (TR)



Notes: Perceived Destination Risk (PRD); Positivity of Comments (POC) variable Viewer's Trust (TR)

6. DISCUSSIONS

In this study, positivity of comments is seen to have a significant but negative relationship with perceived destination risk when the viewers were going through comments along with the video. This indicates that when the positivity of the comments with exposure of ODPVs is more, it decreases the perceived destination risks related to the risky destination. In support of this, it was reported in Gretzel, et al. (2007) study that positive online comments' information could influence in reducing tourists' risk perceptions while booking accommodation, and in reducing medical-tourists' uncertainty and risk perception when selecting a destination (Abubakar, 2016). Additionally, Yang et al. (2016) stated that high proportion of positive reviews or comments might reduce the perceived risks while purchasing. Related literatures do not clearly state the relationship between the perceived destination risks and positivity of comments along with a video exposure, thus becoming a potential addition to the literature.

In the case of positivity of comments' effects over behavioural intention towards the risky destination, no significant relations were found. This means that comments' positivity cannot influence visiting behaviour intentions to risky destinations. This may be because according to O'Reilly and Marx (2011), respondents got doubtful by considering comments to be more positive or the positivity was high, and as stated in Dholakiya (2014) study, become indecisive in their actions (Maslowska, et al., 2017), and might get in to more risks. The results support the studies by El-Said (2020) and Zhao et al. (2015) in which it was discovered that comments with positive valence did not influence consumers' hotel booking behavioural intentions, however, this partly contradicts the existing literatures on behavioural intentions, which indicates that positive comments' information can increase booking intentions (Mauri & Minazzi, 2013; Chan et al., 2017). However, it is to be noted that these studies were not accompanied by exposure to any promotional videos. Thus, becoming another significant addition to the knowledge literature.

Interestingly, in this study, perceived destination risk has negative influence or relation with behavioural intention. This

means that when perceived destination risk is low, the visiting intention towards a risky destination is high, and is supported by Brodien Hapairai et al. (2018) study which shows that lesser destination risk perceptions, influenced by media, likely to increase the visiting intentions to that place. Tavitiyaman & Qu (2013) showed that reducing perceived risk can influence tendency for more behavioural intention, or in other words, reducing perceived risks can increase the possibility to visit a place. Conversely, this result is contradicting the study by Carballo (2021), who showed that the perceived destination risks (terrorist risk) have a negative effect on behavioural intentions, means higher risks leads to lesser chances to visit, and partly with the results of Nurmazidah (2021), who found stated that risk perception has a positive and significant influence on decision-making to visit. In a nutshell, this study found that positive alterations (less) in perceived destination risk inversely influences the visiting intention behaviour to a risky destination, meaning increases the visit behavioural intention to the risky destination.

6.1 Trust as a Moderator to the Relationship of Positivity of Comments and Perceived Destination Risks

Trust plays a vital role to overcome risk perceptions while purchasing online (Kim, Ferrin, & Rao, 2008), and are seen to reduce purchasing risk and increasing buying intention (Hajli et al., 2017; Tseng & Lee, 2016). In this study viewer's trust was seen to have moderating effect in between positivity of comments and perceived destination risk negatively. This means that when comment's positivity is decreasing the perceived destination risks of the risky destination, viewers' trust on the perceived informativeness of video and its attributes, are influencing the perceived destination risks to be lower. This shows that trust is not only effective in reducing risks and increase behavioural intention, but also it can moderate the effect of relations of other variables related to risk factors. The result partly supports the studies where trust was used as a moderator of perceived risk and buying intention (Ng, 2013; Tedeschi, et al., 2017). Trust was seen to moderate the relationship between online purchase and risks (Bhatti et al., 2021). However, literatures regarding trust, moderating the relationship between

comments' valence and perceived destination risk, along with the exposure of video, are hard to find in tourism literatures. Thus, this relation-findings became an addition to the existing related literatures' knowledge.

7. THEORETICAL CONTRIBUTIONS

Regarding theoretical contributions, this form of study on online ODPVs' perceived informativeness and comments' positivity, influencing decision-making behaviour to visit risky destinations, on the basis of perceived risks, has not been conducted before. Hence, this is a new contribution to travel and tourism literatures. It is seen from the results that the ODPV's comments' positivity does reduce the perceived destination risks, and the trust on the ODPV's perceived informativeness, helps in reducing the risk effects, even more, and thus creating a valuable addition to the related literatures of risk reduction strategies related to destinations, tourism and travels and social media. This also adds in to the trust and perceived risk theories related literatures.

8. MANAGERIAL IMPLICATIONS

Concerning Managerial implications, the findings would help and guide the DMOs to understand the importance of monitoring the perceived informativeness factor of the ODPVs and their comments, which would create positive opinions among the minds of tourists, reduce their fears, and inspire them to visit risky destinations. This would also encourage effective tourism promotion for not only risky destinations, but for any other popular and less popular tourism destinations. Destination marketers should depict informative destination attributes in ODPVs in an organized manner which would aid in maintaining the prospective tourist's trust on the perceived informativeness of the video contents. The results can also be a reference DMOs and future researchers for related studies.

9. Future Scopes and Limitations of the Study

To upgrade the generalizability of the outcomes or findings, future researcher can broaden the target populations to any tourists with varied age group. Future researchers can do gender specific research, related to online official destination promotional videos' (ODPVs) effects in terms of tourism. Among

the several limitations in this research study, the first one being that the present study focused on young tourists with diverse nationality. The results might vary if it focused on elderly tourists or on a particular nationality for instance. Secondly, the data was collected through social media platforms, due to the pandemic, thus, the accuracy of the data collected remains a little indistinct – whether the respondents had seen the video or not, or they had gone through the comments fully before answering the questionnaire, remains unclear.

This study provides an extensive understanding of the effects of comments positivity and informativeness of the DPVs on perceived destination risks and behavioural intentions while deciding to make a visiting intention to a risky destination. This study can be a good reference to the young tourists, DMOs and future researchers.

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FACTORS AFFECTING CONSUMER ADOPTION OF SMARTPHONE APPLICATIONS FOR MENTAL HEALTH AND WELLNESS: A STRUCTURAL MODELLING APPROACH

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ABSTRACT

Smartphone applications for health and wellness have substantially changed the health behaviour of users due to their unique features like accessibility, flexibility, and persuasiveness. Using mobile applications (apps) to foster mental health and wellness has attracted the interest of researchers in the recent years as there is a growing focus on mind-body wellness and people have started realising the importance of preventive behaviours and lifestyle changes. While previous research has primarily focused on fitness and physical activity apps, less attention has been paid to apps for subjective wellbeing. The purpose of this paper is to examine the factors responsible for adoption of smartphone apps for wellness in India. A quantitative research approach was used and data were collected from 267 respondents. Structural Equation Modelling (SEM) was applied in the study and the results confirmed that perceived ease of use, perceived usefulness, satisfaction, attitude and habit explained significant amount of variance in adoption behaviour.

Key words: mHealth, mental health, wellbeing, health applications, subjective wellbeing.

1.INTRODUCTION

Health is "a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity" (WHO, 2006). Accordingly, mental health is not mere absence of a mental illness, but is presence of overall emotional, psychological and social wellbeing. Globally, mental health and wellness as an aspect of health have been largely ignored. But the inclusion of mental health in Sustainable Development Goals (SDGs) in 2015 shows that the world has realized the importance of mental health. WHO Special Initiative for Mental Health (2019-2023) was launched by WHO to provide care for mental health conditions in 12 countries. Prevention of mental health conditions and promotion of mental health is one the objectives of the Comprehensive mental health action plan 2013-2030 by World Health Organization (WHO, 2013).

Mental health has been documented in literature to be autogenic (Antonovsky, 1987) and maintaining a healthy lifestyle and preventing risk factors have been acknowledged as important aspects of mental health (Jormfeldt, 2011). Consequently, self-care in terms of self-monitoring and adoption of healthy behaviours have seen notable developments in the recent years. Self-care can be an effective method to foster wellness and can go a long way in maintaining and promoting mental health among healthy and at-risk individuals (Chambers, 2006). Despite being a relatively new phenomenon, use of technology for self-care has resulted in an increased number of health consumers' engagement with internet-based services for health care (Aitken et al., 2015).

Technological advances have the potential to make self-care easy and accessible to the common population. The use of technology in

health care is defined as e-health (Eysenbach, 2001). Mobile health (mHealth) refers to the use of internet based mobile devices for health and medical care (WHO, 2011). Widespread penetration of mobile phones and easy access to internet has facilitated the growth of mHealth in the recent years. mHealth apps are smart phone-based applications aiming at healthcare and are designed for many purposes such as treatment support, management of chronic diseases, tracking and managing epidemic outbreak and surveillance. mHealth represents a unique opportunity to expand the availability and quality of healthcare because the total number of people that own a smart and feature phone is 7.26 billion, making up 91.54% of the world's population and this number is growing every passing day ("Unhealthy India: The rise of lifestyle diseases in the country", 2018). According to a report by WHO (2011) the use of wireless technology can support both prevention and advancement in health and use of technology can help people better their health and wellbeing. Currently, mHealth interventions are not only limited to urban users but are also prevalent among the rural population (Venkataraghavan et al., 2021).

mHealth apps provide many types of services. Major services include diagnostic services, preventive services, and procedural services (Zhang et al., 2017). Preventive services are apps used by general public primarily for disease management and mental and behavioural health (Helbostad et al., 2017). A number of mHealth apps designed for meditation, relaxation, mindfulness, cognitive training, self-monitoring of mood and anxiety fall into this category. (Eisenstadt et al., 2021). By using these apps users can get positive health outcomes by both monitoring and managing their health (Caplan, 2021). Despite the presence of a large number of apps available for download, the adoption of such apps is limited (Kearney et al., 2012) due to many factors such as lack of awareness of mhealth apps (Kayyali et al., 2017), beliefs and literacy about mhealth apps (Shyh-Chang et al., 2013; Lin & Bautista, 2017; Alam et al., 2021). Hence more research is required to understand the adoption of mhealth apps by people.

With a steady increase in life expectancy across the globe reaching an average of 70 years, there is a high prevalence of lifestyle and stress-related diseases in India (Goyal, Chauhan & Gupta, 2021). Hence, taking preventive and innovative measures, emerge as a likely solution to compensate for the deficiencies in the Indian healthcare system gravely affecting an Indian's health (Chakraverty & Arora, 2020). With the number of smartphone users expected to rise by 84% to 859 million by the end of 2022 from 468 million in 2017, and with an increase of 15% in the downloads of mhealth apps in 2020 (Dixit & Gill, 2020), India provides a unique opportunity to promote the adoption of healthy lifestyles by using mhealth apps. Based on the review of existing literature on mhealth, it can be said that previous researches have proven the usability and feasibility of mHealth apps as effectual (Rathbone & Prescott, 2017) but lesser researches are found specifically aiming at use of mHealth apps for mental health. Most of the researches on mhealth have focused on the apps used for diagnostic purposes and medical interventions (Cipresso et al, 2012; Li et al, 2014). There are fewer researches on apps used for preventive purposes and positive lifestyle changes (Aitken et al., 2015). To the best of our knowledge, no researches on such apps have been conducted in India till date. This study aims to examine potential factors for adoption of mobile applications for self-monitoring and enhancement of mental health and wellbeing within the context of a developing economy. The main objective of this study is to investigate consumer adoption of mobile health applications for mental health.

2. THEORETICAL FRAMEWORK AND THE RESEARCH MODEL

While using mhealth apps has proven to be helpful in bringing about positive lifestyle changes, there is a lot of resistance in using these apps due to poor acceptance of technology. Since the field of mhealth is relatively new, there is a lack of researches focusing on the adoption of mhealth apps. Thus, it is imperative to understand whether it will be accepted by potential users.

Since consumer factors plays an important role in adoption of mhealth apps for mental health and wellbeing (Thimbleby, 2013), explaining

the adoption behaviour of mhealth apps is an important area of research. In order to understand the perspectives of consumers, a number of factors pertaining to technological environments and user preferences have emerged to be important (Arya, Paul & Sethi, 2021). A variety of theoretical models have been developed to explain the acceptance of mhealth apps by potential users. Technology acceptance model (TAM) (Davis, 1989) is one of the most frequently used models to explain acceptance of technology. Based on the theory of reasoned action (Fishbein and Ajzen, 1980), TAM was developed to predict the acceptability of an information system and suggests that perceived usefulness and perceived ease of use are the two main factors which shape the attitude of potential users. In India, numerous studies have used TAM to explain the consumer usage of mobile applications for various purposes like shopping (Shukla & Sharma, 2018), finance (Kumar et al., 2020), ordering food online (Tribhuvan, 2020), entertainment (Malewar & Bajaj, 2020), using Massive Open Online Courses (MOOCs) (Shah et al., 2021).

Although TAM is a well-established and highly accepted model which predicts technology acceptance, many researchers indicate that TAM needs to be extended to include additional variables that influence decision making. Researches have extended TAM to include social influence (Vannoy & Palvia, 2010), privacy and trust (Lewis & Wyatt, 2014) and technology anxiety (Mun et al., 2006). Since the current study focuses on the adoption behaviour, i.e., regular usage (Table 1) of mhealth apps, habit and satisfaction are two theoretically justified factors which are likely to increase the predictive power of the model.

2.1 Perceived Usefulness (PU): First introduced by Davis (1989), PU is 'the degree to which a person believes that using a particular system would enhance his or her job performance' and explains people's belief regarding the use of a particular technology. Major need of technology in this vast growing world is to make a task effortless for an individual and prove useful so that there is an increase in their dependence on that particular technology. Perceived usefulness has seen to be positively related with the use of mHealth applications (Vinnikova et al., 2020). Results of

systematic review done on the use of mHealth apps for fitness and physical activity show that there is a positive relationship between perceived utility of the app and the future intent to use it (Angosto et al., 2020; Habeeb et al., 2021; Poonia et al., 2021). Perceived usefulness is also seen to positively impact the adoption of mHealth apps for both young adults (Zhang & Xu, 2020) and older adults (Suh & Li, 2022). Thus it has been hypothesized as:

H1: Perceived usefulness has an influence on attitude towards using mhealth apps

2.2 Perceived Ease of Use (PEOU): PEOU is the belief of a user towards the ease in accessing any technology. Davis (1989) defined PEOU as "the degree to which a person believes that using a particular system would be free of effort." For an individual PEOU is most likely to induce positive perception of using mHealth apps (Aboelmaged et al., 2021). Studies have found that both perceptual components like PEOU and emotional component like satisfaction play an important role in predicting the continuous behaviour of mHealth apps adoption (Oh et al., 2015). Thus it is hypothesized that:

H2: Perceived ease of use has an influence on the attitude towards using mhealth apps

2.3 Satisfaction: An individual's behaviour can be understood by satisfaction and attitude (Oliver, 1980; Jain et al., 2021). Satisfaction is defined as, "psychological or affective state related to and resulting from a cognitive evaluation of the discrepancy between expectancy and performance". When expectations are met, consumer satisfaction is evident. As seen in studies, perceived satisfaction triggers the download of mHealth apps (Smirnova et al., 2021). Previous studies have indicated that strong relationship exist between satisfaction and usage rate of mobile apps for various purposes. (Singh et al., 2017). Thus, a satisfied consumer of mHealth apps is more likely to use them and develop adoption behaviour. On this basis it has been hypothesized that:

H3: Satisfaction from using mhealth apps has an influence on the attitude towards using mhealth apps

H4: *Satisfaction from using mhealth apps has an influence on the habit to use mhealth apps*

2.4 Habit: “Habit is defined as the extent to which people tend to perform behaviours automatically because of past learning” (Gillan et al., 2016). Habit is found to be an important determinant in consumers’ continuous use of mobile health apps. Once a mobile app is downloaded its regular use will enable adoption behaviour of that mobile app. Satisfaction and habit formation have also played a key role in the adoption behaviour of mobile apps for banking (Siyal et al., 2019). Along with various deals offered by the online market places, habit is a strong determinant of user’s behavioural intent towards using a mobile application for online shopping (Tak & Panwar, 2017). Thus it has been hypothesized that:

H5: *Habit of using mhealth apps has an influence on the attitude towards using mhealth apps*

2.5 Attitude: Attitude is a major driver of an individual’s adoption behaviour. “Attitude is a person’s overall evaluation of performing the behaviour” (Yang & Zhou, 2011). Attitude has been found to positively impact a person’s adoption of various mobile apps (Rahi et al., 2019). Attitude towards the acceptance of technology and its use in the form of mobile health application plays an important role in determining an individual’s adoption of mHealth. Thus it has been hypothesized that:

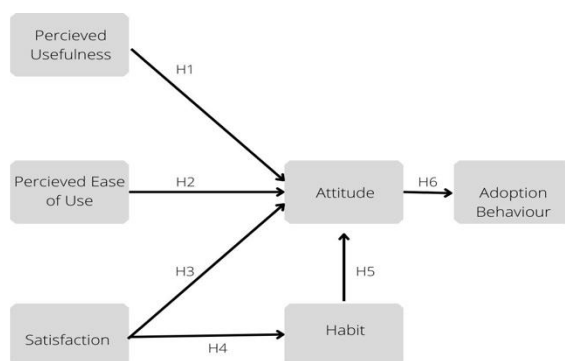
H6: *Attitude towards using mhealth apps has an influence on the adoption of mhealth apps*

tested in the current study. Constructs as defined for the current study have been given in table 1

Table 1: Operationalization of constructs in the study

Construct	Definition	Source
Adoption	Using at least 1 Mental health App on regular basis.	Davis (1989)
Perceived Usefulness	Belief that using mobile applications will be useful for an individual’s mental health.	Davis (1989) Palos-Sanchez et al. (2021)
Perceived Ease Of Use	Belief that using mobile applications for an individual’s mental health will be easy.	Davis (1989) Palos-Sanchez et al. (2021)
Satisfaction	Perception of fulfilment of one’s requirement and expectations from the use of mHealth App for mental health.	Bhattacharjee (2001) Streichan (2020)
Attitude	An individual’s thoughts and feelings towards using mobile application for mental health.	Davis (1989) Palos-Sanchez et al. (2021)
Habit	Habitual usage of mHealth apps for mental health	Venkatesh et al. (2012) Wu et al. (2022)

Figure No. 1: Conceptual Model



Based on the review of existing literature a conceptual model (Fig. 1) was proposed to be

3. RESEARCH METHODOLOGY

3.1 Sample and Procedure

The target population for the current study were users of mobile applications for mental health. Data were collected through a self-administered online survey (Arya et al., 2019; Hanaysha et al., 2021). Cross-sectional survey design was used to collect data through anonymous Google Forms using non-probability purposive sampling method (Sharma et al., 2021, 2022a, 2022b). Purposive sampling is the most suitable technique as it helps to select the respondents who are suitable to fulfil the objectives of the current study (Sharma et al., 2022b). The online survey was publicised on social networking platforms (Facebook, LinkedIn, WhatsApp, Instagram,

twitter etc.) and shared through emails (Arya et al., 2018; Rashid et al., 2022). Prior to the participation, the respondents read the cover letter which informed them about the purpose of the research and completion of survey implied informed consent. Participation was voluntary and anonymous.

Mobile applications for mental health and wellbeing were defined for the respondents. The form was designed in such a manner that only participants who were active users of such applications were able to complete the form. The questionnaire was filled by 415 people. 55 questionnaires were excluded from the sample due to missing and incomplete data. The remaining 360 responses were further screened for alertness. The questionnaire had an embedded item which read "This item checks whether you are reading the items carefully before answering. Please choose 'do not agree' as your answer to this question". 93 responses failed this check and were excluded from the final sample. Researcher was left with 267 responses for further analysis. Sample characteristics have been given in table 2.

Table 2: Demographic Features of the Sample

	Characteristic	n	%
Age (In Years)	18-44	108	40.44
	45-59	97	36.34
	>=60	62	23.22
Sex	Male	166	62.17
	Female	101	37.82
Current Status	Student	63	23.59
	Employed	96	35.95
	Home Maker	65	24.34
	Retired	43	16.10
Highest Educational Qualification	Secondary	43	16.10
	Senior Secondary	79	29.58
	UG and above	145	54.30
Marital Status	Married	115	43.07
	Single	152	56.92
Domicile	Rural	92	34.45
	Urban	175	65.54

3.2 Questionnaire Development

The six constructs of the study were measured by a total of 24 items. All items were adapted from the existing literature to fit the context of the current study and were rated on a five-

point Likert scale ranging from "strongly disagree" scored as 1 to "strongly agree" scored as 5. 4 items each to measure perceived usefulness (PU) and perceived ease of use (PEOU) were adapted from Davis (1989). 4 items to measure satisfaction (S) were adapted from Bhattacharjee (2001). 4 items to measure habit (H) were adapted from Polites (2009) and Alalwan (2018). Attitude towards adoption (AA) and adoption behaviour (AB) were measured using 4 items each developed for the purpose of the current study.

Questionnaire used for the study had three sections. Section one consisted of filter questions to ensure the appropriateness of the sample. Section two measured the constructs (PU, PEOU, S, H, AA and AB) of the study. Pilot testing of the questionnaire was done on 30 respondents to check the quality and clarity of questions. The responses were also reviewed by experts before finalising the questionnaire.

3.3 Data Analysis

The study used IBM SPSS to analyse the descriptive data. Structural equation modelling (SEM) was used to test the research hypotheses and validate the proposed model. SEM provides the flexibility to test models with multiple predictors and criterion variables based on latent variables (Chin, 1998). SEM is a powerful technique to analyse the dependencies of latent variables, thus allowing to analyse the relationships among constructs after avoiding the measurement error (Nachtigall et al., 2003). Analysis was carried out in two steps as prescribed by (Anderson & Giberling, 1988). In the first step CFA was done and the scale reliability and validity were established. Fit of the structural model was assessed in the second step. To assess the fit of the measurement model the following indices were used: Comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square of approximation (RMSEA) and normed chi-square (χ^2/df). CFI and TLI are acceptable if more than .90 (Hair et al., 2006). RMSEA is acceptable at less than .07 (Hair et al., 2006), and χ^2/df must be less than 5 to be acceptable (Wheaton et al., 1977).

4. RESULTS

4.1 Descriptive Statistics

Mean, standard deviation (SD) and inter-construct correlations were calculated for the

obtained data. Table 3 shows the descriptive statistics. There is a positive correlation among

standard was confirmatory factor analysis (CFA). CFA is done to verify the underlying

Table 3: Descriptive Statistics

	Construct	Mean	SD	1	2	3	4	5	6
1	PU	3.98	1.04	-	.465**	.301**	.441**	.509**	.498
2	PEoU	4.01	1.13		-	.358**	.403**	.412**	.386**
3	S	3.74	0.94			-	.427**	.511**	.482**
4	H	3.57	1.01				-	.213*	.512**
5	AA	3.58	0.93					-	.531**
6	AB	3.38	0.95						-

the constructs. Perceived usefulness, perceived ease of use, satisfaction, habit and attitude towards adoption are significantly positively associated with adoption behaviour.

Table 4 shows the various apps used by the participants for the purpose of maintaining

factor structure of observed variables. All factor loading values are more than .60 (Table 5) as recommended by Chin (1998). Secondly, reliability was assessed through Cronbach's α and composite reliability (CR). Cronbach's α provides a measure of the internal consistency

Table 4: Popular apps used for mental health

S. No.	Name of the app	Used for	n	Percentage (%)
1.	Sattva	Meditation	86	32.20
2.	Sadh guru App	Meditation , Gratitude	74	27.71
3.	Calm	Relaxation, Meditation, Happiness, Gratitude and Mindfulness	55	20.59
4.	Headspace	Meditation, Mindfulness and Relaxation	52	19.47
5.	Think Right. Me	Meditation, Mindfulness and Affirmations	32	11.98
6.	Cult Fit	Yoga and Meditation	24	8.98
7.	Art of Living	Yoga, Spiritual music, meditation, radio, lifestyle tips, wisdom and life hacks	13	4.86
8.	Buddhify Me	Mindfulness and Relaxation	11	4.11

their mental health wellbeing through methods of meditation, relaxation, mindfulness etc. the number of participants using each app are also mentioned which depicts the popularity of every app amongst the population sample. The most popular app as reported by the sample was Sattva, used for meditation. Results also reveal that most of the people use apps for meditating and practicing, relaxation and gratitude.

4.2 Measurement Model

The measurement model was evaluated based on reliability and convergent validity prior to hypotheses testing. To test the measurement model three standards were used. The first

of a test or scale for all the items is more than the acceptable value of .70 (DeVellis et al., 2003). CR provides a measure of convergent reliability of the constructs. The values obtained for CR for all the constructs is higher than the acceptable value of .60 (Bagozzi & Yi, 1988). Thirdly, average variance extracted (AVE) was calculated to measure the amount of variance measured by the construct relative to the variance caused by the measurement error (Fornell & Larcker, 1981). As shown in table 5 all values of AVE were more than 0.50 (Fornell & Larcker, 1981). Measurement model indicates an acceptable fit ($\chi^2 / df = 2.495$; RMSEA = 0.049; GFI = 0.91; CFI = 0.92)

Table 5: Results of Measurement Model Analysis

Construct	Item	Factor Loading	Cronbach's α	CR	AVE
Perceived Usefulness (PU)	1. Using Mobile Applications for Mental Health improves my performance in managing my Mental Health and Wellness	.835	.76	.748	.952
	2. Using Mobile Applications for Mental Health helps me in saving time to maintain my health and well being	.894			
	3. Overall use of Mobile Applications for Mental Health are useful in managing my overall health	.859			
	4. Use of Mobile Applications for Mental Health enhances my productivity	.910			
Perceived Ease of Use (PEoU)	1. Mobile Applications for Mental Health are easy to use.	.855	.88	.829	.931
	2. I feel comfortable in using Mobile Applications for Mental Health	.921			
	3. It is convenient to use Mobile Applications for Mental Health .	.902			
	4.I know how to use Mobile Applications for Mental Health	.931			
Habit (HA)	1. Use of Mobile Applications for my Mental Health has become a Habit for me.	.856	.84	.910	.892
	2. It is normal for me to use Mobile Applications for my Mental Health.	.873			
	3. I regularly use Mobile Applications for my Mental Health.	.901			
	4. I feel my day is incomplete without using Mental Health Mobile Applications	.872			
Satisfaction (S)	1. I feel satisfied with the use of Mobile Applications for my Mental Health	.814	.81	.884	.902
	2. I feel contented with the use of Mobile Applications for my Mental Health	.886			
	3. I feel happy using Mobile Applications for my Mental Health	.893			
	4. I believe I did the right thing by using Mobile Applications for my Mental Health	.808			
Attitude Towards Adoption (AA)	1. Using Mobile Applications for Mental Health is a wise idea.	.784	.92	.823	.872
	2. Using Mobile Applications for Mental Health is a pleasant experience.	.869			
	3. I think using Mobile Applications for Mental Health would be convenient for me	.793			
	4. Mobile Mental Health Applications have the features I require	.803			
Adoption Behaviour (AB)	1. I intend to use Mobile Applications for my Mental Health rather than discontinuing its use	.843	.83	.862	.853
	2. My intentions are to continue using Mobile Applications for my Mental Health rather than any alternative means.	.915			
	3. I would like to continue the use of Mobile Applications for my Mental Health as much as possible.	.745			
	4. I will recommend people around me to use Mental Health Applications on their mobile.	.816			

4.3 Structural Model

After testing the goodness of the measurement model, path analysis was applied to test the hypotheses. Table 6 shows the results of hypothesis testing. It was hypothesized that users' adoption of mobile application for mental health and wellbeing is influenced by attitude towards adoption, which in turn is influenced by perceived utility of mobile applications, perceived ease of use, satisfaction derived from using such applications and habit of using them (as shown in figure 1). Results indicate that the impact of perceived utility, perceived ease of use and satisfaction on attitude towards adoption is significant.

The path coefficients for the impact of satisfaction upon habit and habit upon adoption behaviour are also significant. Attitudes towards adoption have a significant impact upon adoption behaviour. However, the impact of habit upon attitude towards adoption is not significant. The model showed an adequate fit: $\chi^2 / df = 2.71$; RMSEA = 0.052; GFI = 0.92; CFI = 0.94). The model explained 58% of variance in attitude towards adoption of the target behaviour and 73% of variance towards adoption of mobile applications for mental health and wellbeing.

Table 6: Results of Hypothesis Testing

Hypothesis	Relationship	Std. β	t-statistics	Hypothesis Supported
H1	PU \rightarrow AA	0.344	5.832	Yes
H2	PEoU \rightarrow AA	0.401	6.386	Yes
H3	S \rightarrow AA	0.263	4.843	Yes
H4	S \rightarrow H	0.214	4.162	Yes
H5	H \rightarrow AA	0.102	1.685	No
H6	H \rightarrow AB	0.479	6.947	Yes
H7	AA \rightarrow AB	0.432	6.543	Yes

5. DISCUSSION

The result of this study confirmed that consumer's adoption behaviour of mobile application for the purpose of fostering and maintaining their mental health and wellness is importantly determined by attitude and habit of an individual. First hypothesis states a positive effect of Perceived Use on Attitude, Hence, it can be said that an individual's view of efficient useability of a mental health app will positively impact their attitude towards its use. Based on the findings of this research, perceived usefulness directly impacts an individual's attitude towards the usage of

these apps ($\beta = 0.344$, $t = 5.832$). Consumers are more likely to adopt a behaviour which they assess useful to them. Findings are consistent in previous studies done in similar contexts of mHealth apps (Vinnikova et al., 2020) and use of smart wearables (Rani & Chu, 2021). Thus, we can argue that an individual will adopt mHealth Apps for mental health if it is believed to be useful.

Hypothesis second states a positive impact of perceived ease of use on an individual's attitude towards the mHealth Apps. Results of this research show that PEOU amplifies positive attitude towards the use of mHealth Apps ($\beta = 0.401$, $t = 6.386$). This finding is consistent with earlier researches (Palos-Sanchez et al., 2021). An individual's intentions to use mHealth Apps are dependent on the ease they recognize in performing any behaviour and once performed with ease chances of continuing the behaviour are increased (Akdur et al., 2020). Hence, we can predict that users' assertion that mobile apps for mental health support and wellbeing, are easy to use, will promote adoption behaviour. The results of H1 and H2 are consistent with previous studies (Shemesh & Barnoy, 2020; Siyal et al., 2019) which depicts PU and PEOU have strong impact on individual's attitude which further impacts their behavioural intention and adoption of mHealth apps for wellbeing.

The current research also studied emotional component like satisfaction and behavioural factor like habit to fill in the important gaps in understanding consumers' adoption of mHealth apps for mental health.

Correspondingly, third hypothesis is, satisfaction from mHealth Apps positively impacts attitude towards the use of mHealth Apps. From the results of this research it can be rightly said that if one's wishes, needs and expectations are fulfilled from the mHealth Apps they will form a positive attitude towards it. It is seen in previous researches on user behaviour that satisfaction strengthens the positive effect of past behaviour on attitudes (Ertz & Sarigöllü, 2019).

In the fourth hypothesis satisfaction has significant direct effect on habit. It can be deduced from the findings of this research that if consumers feel content and satisfied their

chances of adopting mental health wellness apps will increase. Satisfaction positively impact habit formation of any behaviour (Hsiao et al., 2016). Results of several studies on technology use and habit reveal that using technology becomes a habit once a consumer is satisfied with the use (Wang et al., 2013).

In fifth hypothesis as mentioned in this paper, Habit positively impacts the attitude towards the use of mHealth Apps. An interesting finding of this study was the insignificant impact of habit on consumer's attitude towards adoption behaviour. This result finding can be explained on the basis of overriding nature of habit. If the individual establishes a habit of doing something, it might directly lead to adoption (Amoroso & Lim, 2017). Habit has shown to have a significant impact on the adoption behaviour, various researches on consumer adoption of mHealth demonstrate that in their results. (Wu et al., 2022; Birkmeyer et al., 2021).

In the sixth and last hypothesis of this research paper, attitude is stated to have a significant positive impact on the adoption behaviour of an individual towards the use of mHealth Apps. A positive attitude towards any product will eventually attract it's probable adoption by the people. If a person finds mHealth app useful, feasible and satisfactory they will have a highly positive attitude towards it, which will eventually lead to adoption of mHealth App by them. This research is in line with many of the previous researches done on the use of mobile apps for health purposes (Palos-Sanchez et al., 2021) (Ertz & Sarigöllü, 2018).

The overall model proposed in the current study shows a good fit and 58% variance in adoption of mHealth apps by the users.

5.1 Theoretical Implications:

The study was an attempt towards testing the adoption of mHealth apps by individuals, using TAM model. Along with TAM, variables like satisfaction and habit are also incorporated in this conceptual model (Fig1) as these variables were seen to strongly impact attitude and behaviour intentions in previous researches. (Ertz & Sarigöllü, 2018 ; Verplanken & Aarts, 1999) The result of this research reveal that perceived ease of use, perceived usefulness and satisfaction significantly impact the attitude of an individual towards using mHealth Apps.

Attitude further positively impacts the behaviour intention of an individual to actually adopt using these apps. These results are in line with previous researches done on use of mobile apps for banking (Bhatt, 2021) and food delivery (Song et al., 2021). The results of this hypothesis testing report that habit does not have a significant impact on attitude formation, but has significant positive impact on behaviour adoption. This finding is similar to many previous researches in similar context. (Verplanken & Aarts, 1999).

This study contributes to the available literature on use of technology for mental health purposes in context of emerging Indian market for the need of mental health support. TAM since the day of its inception has been of interest for researches to understand the use of technology in various context: payment (Bailey et al., 2022), shopping (Vărzaru et al., 2021) , social media (Al-Qaysi et al., 2021), entertainment (Bhatt, 2021), food delivery (Song et al., 2021) and many more, but very few have used it to comprehend the use of mHealth apps for mental health especially in Indian setting.

5.2 Managerial Implications:

The results of this study give an insight that habit, attitude and perceived ease of use are major predictors of adoption behaviour of mHealth apps by an individual developers must keep in mind the ease of using the app. An app could be made easy to use with enabling user friendly app design and having the app in some major local languages, these are a few ideas which can be incorporated in a mHealth to make it more accessible. In addition to this, company owners can ensure that the apps developed must be advertised in the way, that it forms a positive attitude in consumer's mind so as to promote it's adoption by the people. The manger can also provide in app purchases as free trials initially so that consumers develop a habit of using these mHealth apps. Satisfaction and perceived usefulness also positively impact an individual's attitude which determines the adoption behaviour by consumers of mHealth apps, thus the content of these apps must be result oriented which provide satisfactory changes in one's wellness and it is felt to be useful by the consumer.

The results of this study will help the company owners and managers to devise structured plans for both consumer experience and product marketing of mHealth Apps for mental health and wellness. Various factors affecting consumer adoption of mHealth apps have been discussed in this research paper, if one keeps in mind the various factors determining the adoption of mHealth apps, there is high probability of more consumer adoption of these apps.

5.3 Limitations and future scope:

This study like all other studies is bound by some limitations. Current study has extended TAM model with habit and satisfaction. A similar extension can be considered by future researchers with factors like internet penetration, price value etc. Along with this future research can study moderating effect of age and gender on the adoption of mHealth apps. This study is conducted on the sample selected from India a similar study can take place in another developing nation to understand the situation of developing countries in context of mHealth adoption for their mental health and wellness.

6.Conclusions

Results of current study with 267 Indian participants indicate that the six important constructs play an important role in determining individual's adoption behaviour towards use of mHealth apps for mental health. An individual's usage behaviour of mobile apps for mental health is a blend of their thinking, perception and emotion. Perceptual component like Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) have a significant role in positively impacting adoption behaviour of individuals toward using a mobile application for mental health, by having a direct relation in forming a positive attitude. Emotional component like satisfaction and attitude are correlated and help an individual in forming positive adherence to adoption behaviour of mental health through Apps. Cognitive component like habit directly impacts adoption behaviour towards the use of mHealth Apps for mental health and wellbeing. An individual's Habit and their Attitude directly impact adoption behaviour. Thus, we can conclude that consumer behaviour towards the use of technology for their mental health wellness is strongly dependent on their perception of usability and

ease. It is also dependent on their level of satisfaction from past experience, attitude formed and habit of regular use.

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MOBILE PAYMENT ADOPTION AMONG YOUTH: GENERATION Z AND DEVELOPING COUNTRY PERSPECTIVE

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ABSTRACT

This paper aims to understand the factors that influence mobile payment adoption among youth concerning Generation Z customers, who are the most significant drivers of mobile payments, specifically in developing countries. Data was collected through a questionnaire accomplished by 365 undergraduate students between 18 to 22 years of age. The partial least square structural equation modeling (PLS-SEM) analysis instituted the behavioral intention to adopt mobile payments was substantially and positively affected by social influence, performance expectancy, and effort expectancy. In contrast, the facilitating conditions and price value were insignificant. The negative effect of price value on the intention to adopt mobile banking suggests the irrelevance of promotional offers (discounts, cash-backs) for adoption. The marketers can use the suggestions provided in the study to craft suitable strategies for the sustainable adoption of mobile payments by Generation Z customers in a developing country.

Keywords Generation Z, young customers, Developing country, Mobile payment adoption, Unified theory of acceptance and use of technology (UTAUT), Structural equation modeling (SEM)

INTRODUCTION

The COVID 19 pandemic has raised the importance of anywhere anytime payments that can be facilitated through mobile phones. The growth of the smartphone market, wireless communications, and mobile commerce have complemented to the advantages of mobile phones (Purohit et al., 2022; Sethi, Pereira, & Arya, 2021, Arya. et al., 2018a; Rashid et al., 2022). Mobile payment is one such technology that offers various benefits over the conventional payment methods (Johnson et al., 2018), such as the convenience of cashless transactions, which are faster, more secure, and enable bulk transactions (Park et al., 2019; Verkijika, 2020) regardless of time or location (Qasim and Abu-Shanab, 2016).

Despite the various advantages offered by mobile payment methods, the adoption rate among consumers is slow (Kongaut and Lis, 2017). The companies are striving to increase

their market share in the payments industry by offering innovative products such as mobile wallets and universal payment interfaces (UPI) that have engaged the curiosity of researchers and professionals (Chaturvedi, Bahuguna & Raman, 2022). However, the low switching cost between various payment methods makes the competition more intense (Kaur et al., 2020). Only 10% of the transaction volumes in India are done digitally, out of which just 1% is done through mobile payments (Rongala et al., 2019).

According to The Times of India, in 2021, mobile-based transactions in India recorded a volume of Rs 44.10 billion in value. The country registered over 25.5 billion real-time payment transactions in 2020, the highest globally. Despite being one of the sizeable mobile markets globally, mobile payments in India are used for regular transactions by only 7.6% of people (Patil et al., 2020). The

transaction done through mobile payments increased (by 18.4% in 2019) but at a slow pace (Rongala et al., 2019). Moreover, this is led by the young – 54% of Generation Z (The Economic Times, 2019; Arya et al., 2018a).

Despite the increasing smartphone penetration, the slow growth of mobile payments calls for an investigation of the influencing factors concerning the use of mobile payments among consumers (Arya, Paul, & Sethi, 2021). Generation Z can be the most potential customers for mobile payment companies to increase their adoption. However, there is little discussion of mobile payment adoption from the perspective of Generation Z (Table I).

Monitise (2012) highlights that the most engaged with technology and the internet are relatively young and understand the technology and the internet more precisely. (Lin, 2011; Bhatt and Shiva, 2020; Islam et al., 2020) argued that mobile payments are most likely to be adopted by customers accustomed to the use of wireless technologies frequently in daily activities. Young students largely depend on mobile apps in their daily lives (Aggarwal et al., 2021; Bowen and Pistilli, 2012) for shopping, entertainment, and bill payments. Moreover, they are open to adopting technologies (Sharma and Gupta, 2021; Leong et al., 2013). This is opposite to the older people who are less engaged in mobile phones (Bianchi and Phillips, 2005).

The report by (Pymnts, 2019) indicates the comfort of generation Z, that is, the generation born between 1995 and 2010 (Strauss and Howe, 1991) in using smartphones as indispensable financial management tools. It is further reported that above 90% of customers aged between 18-22 years download mobile payment apps which is much higher than the other generations. This indicates that this generation is likely to become a trendsetter in adopting new technologies, which will only grow in the future. For these reasons, the youth can be the most suitable target for promoting mobile payments.

Mobile payments are the preferred choice for youth in India. Moreover, a recent survey

(2020) conducted by FIS, a technology service provider to the banks and merchants in India, revealed that generation Z is the heaviest mobile payments user. Much research has been done on mobile payment adoption. However, there is a lack of agreement on factors that affect the adoption of different mobile technologies (Humbani and Weise, 2019; Habeeb et al., 2021; Poonia et al., 2021). Thus there is a need for further exploration of mobile payment adoption (Shankar, 2018).

Moreover, the research on mobile payment adoption in India is fragmented (Shankar, 2018), with restricted research focusing the Generation Z. The objective of this study is to fill this gap in the literature by examining the factors that affect the mobile payment adoption among the generation Z (18 to 22 years) in a developing country (India) context.

Grounded in the UTAUT theory (Venkatesh et al., 2012), the model explores the most significant factors determining mobile payments adoption among generation Z in India. This study makes several theoretical contributions. We add to the extant research on mobile payments by exploring a significant but underexplored group (generation Z) in a developing country (India). Moreover, we posit the price value construct in terms of the promotional offers (discount, coupons, and offers) extensively used by the service providers to attract customers but not previously explored and its effect on the intention to adopt mobile payments by generation Z customers. Secondly, it makes a practical contribution by providing insights to the marketers to enhance the use of mobile payments among the youth and increase profitability.

The rest of the paper is sectioned as given. The second section describes the mobile payment context and the theoretical background with the development of a hypothesis. The methodology used for the study is described in section three. The following section presents the discussion of results followed by implications. The paper draws upon the limitations and future research aspects in the conclusion section.

Table I Overview of the literature reviewed on mobile payment adoption among generation Z (developing countries)

Source	Context	Theory	Method	Findings
Kristina and Harris (2020)	Gen Z, Indonesia	Technology acceptance model	Quantitative survey on 100 respondents	Security and brand loyalty affect behavioural intention for mobile payments
Puiu et al. (2022)	Gen Z, Romania	Attitude towards mobile commerce	Quantitative survey on 771 respondents	The demo-socio-economic variables strongly influence the inclination of Gen Z individuals towards using mobile applications
Lee et al. (2022)	Gen Z, Malaysia	Stimulus organism response (S-O-R) model.	Quantitative survey on 201 E-wallet users.	Perceived interactivity and subjective norm affect satisfaction for E wallet usage. Perceived enjoyment influences impulse buying.
Bich Do and Thi Do (2020)	Gen Z, Vietnam	Technology acceptance model	Quantitative survey on 177 E wallet users	an indirect effect between Compatibility, Perceived Ease of Use, Perceived Trust and Social Influence toward intention to adopt Electronic wallet

THEORETICAL BACKGROUND

Mobile Payments

The advent of novel channels of retail that is enabled by the internet and mobile technologies has raised the need for the development of innovative payment solutions that can enable faster and easy transactions. Mobile payments refer to the system through which a user can use a mobile device to complete a financial transaction over wireless communication or mobile internet (Lu et al., 2011). In mobile payment transactions, the financial value can be exchanged through the mobile equipment held with the user and merchant. These transactions are facilitated through interaction between the internet, the device, and service providers. Mobile payments can be used for making financial transactions in terms of money transfers or payments for purchases or bills (Sambhy, 2014).

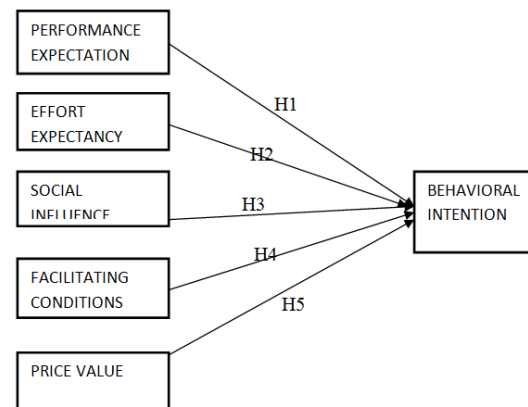
The unified theory of acceptance & use of technology (UTAUT)

Researchers have applied various models to study the determinants of mobile payment adoption. Dahlberg et al. (2015) highlighted the Technology acceptance model (TAM), the unified theory of acceptance and use of technology (UTAUT), and the diffusion of innovation theory (DOI) as the most commonly used models used for the mobile payment adoption studies. Venkatesh et al. (2003) advanced the UTAUT model after meticulously evaluating eight major adoption models. The supremacy of UTAUT over other models has been empirically tested and proven (Venkatesh et al., 2003; Zhou, 2013). Prior researchers have majorly used UTAUT in mobile payment adoption (Thakur, 2013). Four constructs were proposed under the UTAUT theory, including performance expectancy, effort expectancy, social influence, and facilitating conditions. The dependent variable of interest is a behavioral intention to adopt mobile commerce.

The access to digital cell phones and their use in daily lives in developing countries increases their contribution to economic development (Heeks, 2020; Arya, Sethi, & Paul, 2019). UTAUT is considered a robust theory for examining the technology adoption against other models (Zhou, 2013). In a report, Venkatesh et al. (2012) highlighted that the UTAUT theory could be tested in various countries, age groups, technologies, and other relevant factors to expand its scope and applicability to a broader consumer group. Moreover, the mixed results in the different groups and locations have questioned the universal application of the UTAUT model, thus increasing the need for comprehensive research (Verikijika, 2018). Moreover, the developing countries need a separate investigation to fit the local needs (Takavarasha, 2020).

UTAUT and its broadened theoretical frameworks have been widely favored and amply used by various researchers interested in knowing the effect of factors in adopting new technologies. In the UTAUT2, the hedonic motivation, price value, and habit constructs were added as substantial precursors of the behavioral intention to adopt a technology (Kulviwat et al., 2009) to make the theory more consumer-focused (Arya et al., 2018b). The hedonic motivation is related to the unique experience of a consumer while using a product which is an emotional and imaginary response towards a product (Holsapple and Wu, 2007). The habit construct refers to a customer's interest in spending more time on a specific product. However, mobile payment is more of a utility, which makes studying these two factors irrelevant. However, the price value can be an essential factor in determining adoption (Chaturvedi et al., 2022; Jain et al., 2021; Jhamb et al., 2021). This is more relevant in mobile payments. To combat the fierce competition in the industry, companies are offering deals such as cashback, discounts, and coupons (KPMG report, 2019) to attract customers toward a specific mobile payment method. Thus, we use the performance expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC), and price value (PV) constructs as predictors in determining the behavioral intention to adopt mobile payments. The framework used for this study is exemplified in Fig. I.

Figure I Conceptual model



HYPOTHESIS DEVELOPMENT

Performance Expectancy

Performance expectancy (PE) refers to the benefits derived from technology usage (Venkatesh et al., 2012). The user's expectation concerning the performance of a particular technology is an essential factor that affects the technology adoption, as also evidenced in the prior research on mobile payments (Thakur, 2013). The extant literature highlights that customers will use technology if they find it valuable (Saif Almuraqab, 2019; Alalwan et al., 2016). It is evidenced that mobile payments are a source of pervasive, timely payment methods over cash and facilitate anywhere, anytime banking (Slade, 2015). The students might find mobile payments applicable only if it saves their time or they find it to be a convenient method over cash. Researchers in various regions and domains found a significant influence of PE on behavioral intentions (Riquelme and Rios, 2010; Sripalawat et al., 2011; Verikijika, 2018). Thus we propose that

H1: Performance expectancy has a significant positive effect on the behavioral intention to adopt mobile payments

Effort Expectancy

Effort expectancy (EE) cites the convenience of using a technology (Venkatesh et al., 2012). Researchers have emphasized that EE impacts technology adoption intention (Thakur, 2013). The use of mobile payments can simplify the transactions through a user-friendly interface which can make life easy. Young customers tend to look for easy-to-use technologies (Govender and Sihlali, 2014) because it saves their time to invest in studies and other

recreational activities. They might adopt it if they realize the system is easy to learn and use. EE and its effect on behavioral intentions have been measured by researchers in various fields (Sripalawat et al. 2011; Riquelme and Rios, 2010; Venkatesh et al., 2003). Hence, we propose

H2: Effort expectancy has a significant positive effect on the behavioral intention to adopt mobile payments

Social Influence

Social influence (SI) is another crucial variable acknowledged by (Venkatesh et al., 2003a) in their technology adoption literature. The SI refers to the customers' perception of the opinion of others in the society on particular technology usage (Venkatesh et al., 2012). As a part of the social environment, an individual cannot ignore the influence of society on his life and decisions. Prior researchers have reinforced social influence as the precursor of intention to adopt technology concerning mobile payments (Gupta and Srivastava, 2021; Sharma et al., 2022a, Dong et al., 2014; Tan et al., 2014). The students are primarily impacted by their peers concerning using a certain technology or system (Govender and Sihlali, 2014). Thus, it is proposed that

H3: Social influence has a significant positive effect on the behavioral intention to adopt mobile payments

Facilitating Conditions

Facilitating conditions (FC) can be described as a person's belief about the existence of infrastructure support to enable the use of a particular technology (Venkatesh et al., 2003a). The FC relates to various aspects such as the awareness imparted by the organization on the use of technology while promoting it to the customers or the degree of synchronization between the conventional and new methods (Wong et al., 2015) that creates or avoids the problems during the use. Hence, resources and support services are likely to drive the customers toward adopting mobile payments (Alalwan et al., 2016). The users should recognize mobile payment services as befitting other technologies. There are contradictory claims about the influence of FC on the behavioral intention to adopt mobile payments. Several researchers have supported the effect of FC on BI (Alalwan et al., 2016;

Teo, 2010), while some other researchers have not found a significant effect of FC intention (Jambulingam, 2013; Teo and Noyes, 2014). The contradictory claims indicate that the influence of FC must be further tested. Therefore, we propose that

H4: Facilitating conditions have a significant effect on the behavioral intention to adopt mobile payments

Price Value

Price value (PV) has been appraised as a salient determinant of mobile technology adoption intention (Venkatesh et al., 2012). People engage in app based shopping behavior due to the price benefits. These price benefits are also in terms of the promotional offers and discounts provided by the mobile payment companies. In developing countries like India, many of the mobile payment service providers offer a lot of deals to the customer such as cash-back offers, discounts, and coupons. For example, Paytm, Amazon Pay, GooglePay offer cash-back and other rewards to the consumers. The consumers use a specific payment platform to avail these offers. This is mostly used as a competitive tool but it is not clear if these offers can lead to the mobile payment adoption. The price discounts are considered as absolute by some and in relative sense by others (Tak and Panwar, 2017). If the customer recognizes that the benefits or rewards obtained are higher than the cost of use of a particular technology (Teo et al., 2015), the price value will be positive and will impact the intention positively (Alwahaishi and Snásel, 2013). Mobile payment apps are generally free to download and therefore the promotion of discounts and offers on the use of mobile payments attracts the customers to switch. According to Pham & Ho (2015), the supplementary value (e.g., discounts, e-coupons, etc.) perception of consumers on the mobile payment usage is more likely to drive them towards its. Thus we capture PV in terms of the promotional offers (discounts, cash-backs, e-coupons etc.). Venkatesh et al. (2012) determined the effect of price value on behavioral intention. Based on the discussion of price value in terms of the promotional offers we posit that if the customer assumes that he is deriving benefits (promotional offers in this study) from the use of mobile payments, s/he would have an intention to use it. Thus, PV is added as a precursor of

behavioral intention to adopt a technology (Venkatesh et al., 2012). Hence, the proposed hypothesis

H5: Price value has a significant positive effect on the behavioral intention to adopt mobile payments

According (Fishbein and Ajzen, 1977) to intention can predict the actual behavior. Therefore, in this research, the behavioral intention (BI) is described as the intention for continued use of mobile payments or adoption (Ooi and Tan, 2016; Sim et al., 2014; Sharma et. al, 2021).

METHODOLOGY

Research Instrument

The data for this study was collected with the help of a questionnaire completed by 365 students at a large university (XXXX University) in India. XXXX University is a large university in India with strength of more than 30,000 students who are from across the country and also from foreign nations belonging to various races, religions, and cultures. The university is ranked by many national and international agencies such as QS, NIRF, India Today, The Week, and Outlook. As per QS Rankings 2021, the university is among the Top 20 Higher Education Institutions (HEIs) in India, both for Public and Private. Therefore, it is reasonable to presume the sample as a righteous representative of the target populace. The questionnaire was pretested on a sample of 25 students to check the accuracy and understandability of this study by the intention to adopt mobile payment; we mean the adoption and pursuance of a particular mobile payment method. The items of the constructs were taken from the scale proposed by (Venkatesh et al., 2012) (Table II). The questionnaire was reviewed by two IS researchers, thus establishing content validity.

Table II Variables and their Indicators

Construct	Measurement	Source
Performance expectancy	I would find MP useful in my daily life	Venkatesh et al., 2012
	Using RMP would help me accomplish things more quickly	
	Using RMP might	

	increase my productivity	
Effort expectancy	Learning how to use RMP would be easy for me	Venkatesh et al., 2012
	My interaction with RMP would be clear and understandable	
	It would be easy for me to become skillful at using RMP	
Social influence	People who are important to me think that I should use RMP	Venkatesh et al., 2012
	People who influence my behavior think that I should use RMP	
	People whose opinions I value prefer that I use RMP	
Behavioral intention	I intend to use RMP in the future	Venkatesh et al., 2012
	I will always try to use RMP in my daily life	
	I plan to use RMP frequently	
Facilitating conditions	I have all the necessary resources to use mobile payment	Venkatesh et al., 2012
	I have the knowledge necessary to use mobile payment.	
	Mobile payment is compatible with other technologies I use	
Price Value	Mobile payment is reasonably priced	Venkatesh et al., 2012/ Literature and Expert advice
	Mobile payment is a good value for the money (The deals and offers)	
	At the current price, mobile payment provides a good value (Deals and Offer)	

Sampling design and data collection

The data was collected from four different departments offering the undergraduate course at the university, which includes management, engineering, agriculture, and media studies. The reason for selecting the undergraduate course was that the research required to include only generation Z customers falling in the age group of 18 to 22 years. Undergraduate students mostly fall into this age group (Bamforth et al., 2017). A total of 400 students were contacted for the study. A list of students was generated from each department, and 100 students were selected randomly from each department. The self-administered questionnaire was apportioned to the undergraduate students in the university through emails that were collected from the department. The suitability of collecting data through emails lies in the less cost, easy distribution, faster response, greater flexibility, and paper saving (Sundram et al., 2016).

The respondent's age was checked before sending the questionnaire, and it was sent only to the students falling between the age group of 18 to 22 years. English has been used as a medium to develop the questionnaire and contact the students. English is used as a medium for education in the university. Since the students are from nations and cultures,

(Wold, 1982). A seven-point Likert scale (1 =strongly disagree and seven = strongly agree) was used for the scale items.

DATA ANALYSIS

The objective of this study was to examine the factors that influence the behavioral intention to adopt mobile payments among generation Z customers. Of the 365 respondents, 134 were female and 231 were male. SmartPLS version 2.0 was then used to analyze the structural model. PLS has been projected as an accurate method of analyzing the relations between constructs (Chin et al., 2003; Sharma et al., 2021, 2022a, 2022b).

Measurement model

The reliability and validity of the structural model were examined (Table III). The measurement model was determined for quality by content and discriminant validity, indicator, and construct reliability (Laumer et al., 2010). The indicators were checked for factor loading higher than 0.70, which exceeds the minimum requirement of 0.50 (Gefen, 2002). The convergent validity of the constructs was proved by the average variance extracted (AVE) values which exceeded the minimum requirement of 0.50 (Fornell and Larcker, 1981). The composite reliability measures were above the minimum required cut-off of 0.70 for all the constructs (Nunnally

Table III Validity measures

				Discriminant Validity				
Latent Construct	Average variance extracted (AVE)	Composite Reliability	BI	EE	FC	PE	PV	SI
BI	0.682	0.864	0.826					
EE	0.894	0.962	0.677	0.946				
FC	0.927	0.974	0.635	0.936	0.963			
PE	0.927	0.981	0.622	0.972	0.951	0.963		
PV	0.925	0.974	0.627	0.952	0.953	0.960	0.962	
SI	0.845	0.942	0.731	0.850	0.805	0.830	0.831	0.919

BI=Behavioural intention, EE= Effort expectancy, FC= Facilitating conditions, PE= Performance expectancy, PV=Price value, SI=Social influence

English is the standard and accessible medium of communicating with them. A reminder email was sent to the students after sending the questionnaire for the first time in one week. Out of the 400, 365 responses were received and were suitable for analysis. The sample size exceeds the minimum requirement of 180 (10:1 ratio of scale items)

and Bernstein, 1994). The Cronbach alpha values for all the constructs were higher than 0.70. Thus, convergent validity was established, indicating that the constructs are suitable for testing the model. Discriminant validity was proved as the values for AVE were more significant than the squared inter construct correlations (Fornell and Larcker,

1981). The results indicated good internal consistency and convergent and discriminant validity. Hence, the constructs are suitable to test the model.

Structural model assessment

The structural model assessment can be done with the help of adjusted R². The adjusted R² for the behavioral intention was 0.57 which indicates a good predictive power (Hair et al., 2012). The VIF (Variance inflation factor) values were lower than the cut off range of 5.0 indicating the absence of multicollinearity (Hair et al., 2014). In the final step, the relationships between the constructs were evaluated for relevance and significance. From the bootstrapping procedure, it was found that three out of five structural relationships were significant (p ≤ 0.05). (Table IV).

Fig. 2 Results

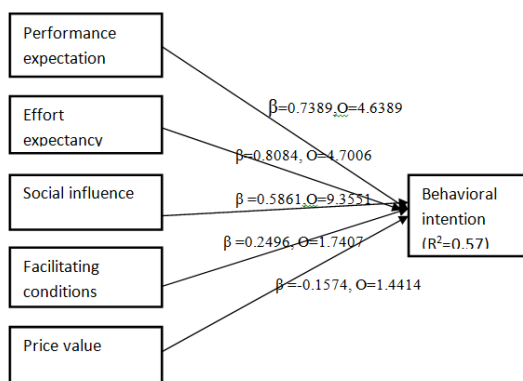


Table IV Results of SEM analysis

Hypothesis	Structural Path	Original Sample (O)	Standard Error (S.E.)
H1	PE -> BI	0.7389	0.1593
H2	EE -> BI	0.8084	0.172
H3	SI -> BI	0.5861	0.0626
H4	FC -> BI	0.2496	0.1434
H5	PV -> BI	-0.1574	0.1092

Note: ***p<.001, ** p<.01, * p<.05, and ns:- Not significant

Structural model

The results of bootstrapping (365 cases, 5000 samples, no sign change option) (Nevitt and Hancock, 2001) indicate that the path coefficient scores for two out of four structural relationships are significant. The results revealed that social influence has the most

significant influence on the behavioral intention ($\beta = 0.5861$, $t = 9.3551$, $p < 0.001$). The second highest scores were for the effort expectancy ($\beta = 0.8084$, $t = 4.7006$, $p < 0.01$) followed by performance expectancy ($\beta = 0.7389$, $t = 4.6389$, $p < 0.01$). The effect of facilitating conditions and price value was found to be insignificant in predicting the behavioral intention with scores of ($\beta = 0.2496$, $t = 1.7407$, $p < 0.05$) and ($\beta = -0.1574$, $t = 1.4414$, $p < 0.05$) respectively. Thus, the H1, H2 and H3 whereas the H4 and H5 were rejected.

DISCUSSION

The results revealed that social influence is the most significant construct in predicting behavioral intention. This is congruous with the prior researchers (Chong, 2013; Oliveira et al., 2016). Taylor et al. (2011) evidenced in the research done in the US that peers significantly influence young customers to use mobile banking. Their peers highly influence youngsters to form their interests and efforts (Mazman et al., 2009). They spend much time with friends, peers, and family and seek their opinions on making financial decisions (Agnew, 2018; Bamforth et al., 2017).

Moreover, in contrast to the claims of (Venkatesh et al., 2003a) about the importance of the effect of social influence after the performance expectancy in determining intention to adopt mobile payments, the results reveal that the generation Z customers are more driven by the social pressures rather than the technology itself (Alalwan et al., 2016). The effort expectancy has a significant positive effect on behavioral intention. The finding is supported by prior researchers (Chong, 2013; Oliveira et al., 2016; Venkatesh et al., 2012). This indicates that the adoption of a system depends on the ease of use. The young customers look for the less complicated user-friendly procedure and faster methods to drive them towards adoption. In their study on young customers, Bamforth et al. (2017) highlighted that their selection of a payment method by them depends on their ease of use. This is relevant in the case of generation Z customers who look for products that can save their time which they can spend on studies or other activities.

There was a significant positive effect of performance expectancy on behavioral intention in the previous research (Chou et al.,

2018; Faqih and Jaradat, 2015; Liébana-Cabanillas et al., 2017). Customers can adopt a technology if they feel confident about the benefits. The young customers are very much addicted to mobile phones and carry them almost everywhere. Due to the limitations of time and cost, the young students cannot frequently travel to banks or ATMs to withdraw the cash required for their daily needs, such as buying stationery items or paying bills. Mobile payments offer them time and place flexibility (Constantiou et al., 2006). Many students stay away from homes for education, making it risky for them to carry a considerable amount of cash. This might be the reason why they perceive mobile payments as applicable. The effect of facilitating conditions on behavioral intention is insignificant. This supports the previous researchers (Jambulingam, 2013; Niehaves and Plattfaut, 2014; Teo and Noyes, 2014), thus confirming that the young generation of students can use technology without the support systems (Laumer et al., 2010; Prensky, 2001). One of the reasons may be that the young students are technology savvy and do not look for assistance to use the mobile payments (Fadzil, 2017). According to (Venkatesh et al., 2003a) the effort expectancy captures the issue regarding FC and therefore is insignificant in determining BI when used with EE. In this study, The PE and EE have a substantial effect on the BI which might be a reason for the insignificance of FC on BI thus supporting the claims of (Venkatesh et al., 2003). The young customers are smart and educated and can easily acquire the skills required for use of the mobile payment system. They are experienced in using internet-enabled technologies such as online shopping and mobile phones (Akturan and Tezcan, 2012). They do not require any support for the use of such technologies. They have the access to mobile phones and spend enormous time in engaging with mobile phones. Thus, it is easy for them to learn and acquire technology. This might be the reason for the insignificance of facilitating conditions in determining the intention to adopt mobile payments.

The insignificance of a price value in determining the behavioral intention supports the claims of previous researchers (Verikijika, 2018; Dong et al., 2014; Venkatesh et al., 2012). This means that the young students do not

consider the price value or promotional offers for adoption of mobile payments. In other words the availability of promotional offers does not lead to adoption of a mobile payment method among youth. One of the reasons may be lack of special incentives. Generally, the offers or deals cannot be redeemed conveniently while making purchases. Many youngsters use a payment method to avail the monetary benefit received in the form of a deal or offer. However, this might not lead him/her to adopt that method. Ramaswamy and Srinivasan (1998) pointed out that a customer will prioritize a transaction rather than possession as a response to monetary benefit. Rakesh and Khare (2012) found that Indian customers remain unaffected by deals in online shopping. This may also apply to mobile payments since young students use them for shopping and other payments. It may be inferred that young customers are not concerned about the price value for the adoption of mobile payments.

THEORETICAL IMPLICATIONS

The objective of this study was to examine the factors that affect the adoption of mobile payments among young consumers. The study provides some theoretical contributions. While there is substantial research on mobile payments, the study adds to the existing literature on mobile payments by examining the factors that affect the use of mobile payments, specifically for young customers in generation Z aged 18 to 22 in a developing country that is significantly pushing the use of mobile payments but the adoption is still not pervasive. Moreover, we posit the price value construct in terms of the promotional offers (discount, coupons, and offers) extensively used by the service providers to attract customers but not previously explored and its effect on the intention to adopt mobile payments by generation Z customers. The study presents some significant findings that guide further research directions. The research extends to the call for testing the model on various customer groups (Venkatesh et al., 2012). The study supports the findings from the original UTAUT model in the context of young customers in a developing country. The findings suggest that social influence is the most important predictor of the behavioral intention for mobile payment adoption among young customers. This contradicts the original claims of Venkatesh et al. (2003) concerning SI

as the second most crucial factor. This implies that generation Z considers social opinion for mobile payments adoption. India has been posited as a collectivist society (Purohit & Arora, 2021). This finding supports the claim that it must be further explored in the young generation context. The significant influence of effort expectancy and performance expectancy implies that generation Z will look for easy operations and are considerate of the benefits of mobile payments for the adoption. The insignificance of FC implies that the young customers do not require a support system if the mobile payment systems are easy to operate and are helpful. The study also claims the insignificant role of a price value in determining behavioral intention. This finding implies that young customers do not find the deals attractive, and the price value does not determine their intention to adopt a payment method. This is a significant finding in a market like India, where mobile payment companies are focusing on price offers as a tool to promote the product. It is more critical when the promotion campaigns are targeted at young customers. The results support the prior literature on mobile payments concerning the performance expectancy, effort expectancy, and facilitating conditions, thus supporting the UTAUT model. Moreover, the model explained a 57% variance against the (Venkatesh et al., 2003) model, which explained a 30% variance.

Managerial implications

The study's findings dispense some proper cognizance for marketers from a pragmatic standpoint. Social influence was the most salient predictor of behavioral intention to adopt mobile banking. Marketers can make use of this information to design their promotion strategy. They can utilize social influence by offering incentives for those who have already adopted a payment method for referring friends. It might prove to be a better and more profitable method for the companies who are spending a considerable amount on offering deals to all the customers. Effort and performance expectancy significantly influence mobile banking adoption among young customers. The service providers such as banks and Fintech (Financial technology) companies must develop mobile payment applications that are faster and easy because young students are conscious of time and look for faster applications. The unique value must

be communicated to the customers through promotions.

One of the essential findings was the insignificant effect of price value on youngsters' intention to adopt mobile payment. There is intense competition among the service providers, including banks and Fintech companies. They give a lot of promotional offers in terms of cash-backs, discounts, or coupons, thus making a considerable expenditure to attract the customers and communicate the same in their promotional campaigns. It is imperative that the service providers limit the deals and offers and spend more money improving the user interface and infrastructure development. Moreover, the focus of these companies should be on providing distinct value to the young customers, which are beyond the existing payment systems. The mobile payment market is bombarded with various payment methods, which require downloading the app on mobile phones to enable payments. These include the apps provided by banks that enable online shopping and payments and the apps provided by Fintech companies such as Paytm, Phonepay, and Google pay which enable the users to make payments on various outlets. However, at the same time, all the payment methods cannot be facilitated by retailers or other merchants. This makes the youngsters keep switching between various methods and not adopt a single payment method. They use multiple payment methods such as online banking, cash payments, and mobile payments. The integration and further strengthening of the infrastructure will only help realize mobile payments' true potential and pervasiveness.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The study has certain limitations that should be addressed in future research. The findings of this study are based on students of a single university. This limits the scope of this study in terms of geography and population which makes it difficult to generalize the results. For practical and theoretical use, the study should be conducted on young customers of various regions and countries. Qualitative research methods have been recommended for a deeper insight (Verikijika, 2018). The study is focused on the existing use of mobile

payments and does not address the future. A longitudinal study would be helpful in future research. A differentiation between the users and non-users is likely to provide deeper insights. Second, the study has used the UTAUT model; therefore, the constructs used in the study are restricted. Given the dynamic environment in which the mobile payment service providers operate, future research can consider various constructs such as trust, risk, and network externalities. It would be better to study the moderation effect of variables such as gender, culture, or family income in future research. A comparative study of mobile payment methods such as mobile banking, mobile payments, and card payments can also be helpful.

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GAMIFICATION INTERACTION FEATURES IN LANGUAGE LEARNING APPS, BRAND ENGAGEMENT, AND BRAND-CONSUMER RELATIONSHIP QUALITY

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ABSTRACT

Gamified interactions are extensively used in Language learning apps to make learning languages easier. Gamified interactions are the result of the game-like feature being used to co-create compelling experiences. However, there exists a lack of empirical studies on the efficiency of gamified interaction on brand engagement and brand relationships, which are the main constructs for assessing the métier and worth of the brand in the contemporary framework of language learning apps. The current study aims to fill the research gap by exploring the associations between gamified interaction features in Language learning apps, brand engagement, and brand-consumer relations quality parameters, namely Trust, Commitment and Satisfaction. The proposed conceptual model was validated utilizing the Partial least squares (PLS) structural equation model (SEM) with SmartPLS, using data collected from 152 respondents in March 2022 through an e-questionnaire. The findings showed that interacting with gamified achievement features influenced brand engagement positively and significantly; absorption and social interactions had a minor positive but negligible influence on brand engagement. Brand engagement exerted an affirmative substantial influence on Brand Trust, Commitment, and Satisfaction. Trust has a strong influence on Commitment; Commitment has an affirmative effect on brand satisfaction. These findings imply that gamified interactions may positively influence brand engagement and enhance brand-consumer relations quality in the context of Language learning apps. The theoretical and practical implications were discussed.

Keywords: Gamified interactions, Brand engagement, Commitment, Satisfaction, Language Learning Apps

1. INTRODUCTION

Games are extremely popular nowadays, irrelevant of intrinsic/extrinsic motives (Granic et al., 2014), to the point of addiction (Gioia et al., 2022). Using game elements has increased at an incredible rate for motivating individuals to perform in definite ways (Koivisto & Hamari, 2019), and to encourage learning, and problem-solving (Kapp, 2012). As a result, 'Gamification' is now a hot topic for research among professionals and academicians (Hamari & Parvinen, 2018), as well as marketing researchers interested in improving consumer engagement with their brands (Wunderlich et al., 2019). 'Gamified interactions' are the result of the game-like feature being used to co-create compelling experiences, which are now being extensively used in Language learning apps.

The central objective of this study is to investigate the effect of Gamified interaction features in Language learning apps on users.

Language learning apps provide content, exercises, and interactive assessments to users which enhances their language proficiency. With consistent practice, users learn vocabulary, pronunciation, and even grammar. They provide language learning for a fraction of the cost of a formal language learning session with an instructor; some are free or have a free trial period. Users may also upgrade the plans intended for unlimited usage. Another benefit of these applications is that users study at their own pace. Moreover, the gamified interactions/ images/ AI-based auditory visual aids used in the apps, make language learning stress-free; some even provide goal-oriented learning for which the user needs to subscribe to premium plans.

Given the vast volume of literature on gamification, there are still inadequacies in empirical, theoretical, and analytical methodological techniques employed for the investigation of gamified interaction features

in Language learning apps and their effects, particularly in India, a developing country. There is also a mounting interest of firms, policymakers, and academics in emerging economies, in India (Gupta & Srivastava, 2021). The current study was conducted to keep abreast of the latest gamified elements incorporated in Language learning apps, to scrutinize novel advances and fill the persevering gaps, and to offer suggestions, both practical and managerial. An exhaustive literature review on gamification revealed that there are still inadequacies in empirical, theoretical, and analytical methodological techniques employed for the investigation of gamified interaction features in Language learning apps and their effects, particularly in India, a developing country. Despite the appropriateness of various frameworks, for example *Self-Determination Theory* (Ryan & Deci, 2000) / *Flow Theory* (Csikszentmihalyi, 1990), reviews brought to the fore the lack of a theoretical foundation for explaining gamification effects; conspicuously, limited studies are grounded on sound theoretic backgrounds (Sailer et al., 2017). There is also no substantiation of the efficiency of gamified interaction features on brand engagement/commitment. Furthermore, recent literature evaluations have demonstrated an absence of appreciation of the effects of innumerable gamified interaction characteristics, as many researchers regard gamification as one notion or a one-dimensional construct (Sailer et al., 2017).

The researcher identified a research gap as the relations between the gamification interaction elements (achievement, absorption, and social) in Language learning apps, brand engagement, and brand-consumer relationship parameters, namely trust, commitment, and satisfaction had not been investigated by prior studies. The current study targets to fill the identified gap in the extant literature and contributes to the extant studies in the fields of language learning, behavioral sciences, marketing, and gamification by scrutinizing the relations between gamified interactions in Language learning apps, engagement, and the brand-consumer relationship, as well as offers practical insights for the use of gamified interactions as well as Language learning.

Founded on *Self-Determination Theory*, the study investigates the influence of diverse

gamified interaction features included in Language learning apps and their relationship with brand relation quality parameters, namely consumers' trust, commitment, and satisfaction. Rarely have studies looked at the associations between gamified interaction and brand features, gamification being in a new arena of marketing (Yang et al., 2017). Although prior studies have investigated some gamified features in Language learning apps, namely their being easy/free to utilize (Marques-Schafer & da Silva Orlando, 2018), being motivating (Huynh et al., 2018), and being flexible (Loewen et al., 2019), no in-depth study has investigated the effect of gamified interactions on users as consumers and investigated their influence on brand-engagement and relationship quality. More crucially, the most evident shortcoming in this corpus of research is that most studies do not examine consumer interactions with gamification features, instead assume that consumers have encountered gamified elements (Berger et al., 2017). As a result, such studies frequently resort to analyzing intentions to continue utilizing the gamified approach on a more general level. Several researchers confirmed the nuances of gamified interactions on brand promotion (Spais et al., 2022), brand equity (Xi & Hamari, 2020), brand engagement (Lu & Ho, 2020), and brand love (Hsu & Chen, 2018), and brand attitude (Yang et al., 2017). Nonetheless, empirical evidence of the impacts of gamified interaction features on brand engagement and relationship quality parameters, particularly for language learning apps, is still lacking. As such, the study aims to address the following research questions:

Do diverse forms of gamified interactions facilitate brand engagement?

Does brand engagement influence brand-consumer relationship quality parameters in the context of a Language learning app?

Does brand trust/commitment influence brand satisfaction among Language learning app users?

The ensuing is the structure of the paper: The theoretical framework and conceptual model are presented in the next section. The third section details the methodology and approach utilized to carry out this study. The findings are given in section four. Section five provides

the discussion of findings along with theoretical, managerial, and research implications; the conclusion is given in the last section.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Gamified interaction features in Language learning Apps

Gamification for Language learning is still a relatively new field (Dehganazadeh & Dehganazadeh, 2020). The gamified interaction elements constitute a design aimed at providing pleasurable game-like experiences for facilitating language learning, which has been equated with a social learning experience (Lantolf et al., 2015). The core idea of gamification is utilizing game-like elements in the non-gaming milieu (Seaborn & Fels, 2015), to connect the attraction of games and enhance motivation. As Language learning may be perplexing, demanding, and stressful (Iaremenko, 2017), especially during the post-pandemic scenario (Sharma & Alvi, 2021), it requires adequate motivation; else the learners may quit easily (Turan & Akdag-Cimen, 2019). Gamification increases their motivation and builds up language proficiency and self-reliance for learners (Castañeda & Cho, 2016). This has resulted in an upsurge in the utilization and implementation of gamified interaction features for learning languages. Fast industrial and technological progress has also boosted the use of gamified features for language acquisition.

Researchers have confirmed Gamified Language learning interactions facilitate the acquisition of skills e.g. listening skills (Bustillo et al., 2017), vocabulary skills (Ajisoko, 2020), and overall communication skills, by making learning an adventure (Zhou et al., 2017). These interactive features fall into three categories: achievement interaction, social interaction, and absorption interaction features (Koivisto & Hamari, 2019).

Achievement interaction-associated features are utilized very often in Language learning apps; these include points, badges, leader boards, coins, and bars indicating progress/levels of difficulty (Koivisto & Hamari, 2019). These interactions have been confirmed to influence the consumers and facilitate feedback (Hassan et al., 2019). This consequently affects the consumer intention for the continuance of the

particular brand, and brand engagement. They also influence the need for relatedness, autonomy, and competence (Xi & Hamari, 2019) by delivering constructive criticism, particularly for language learning by increasing the level of difficulty of tasks and challenges (van Roy & Zaman, 2019). Consumers prefer to feel greater liberty while operating the apps for language acquisition, thus components like progress blocks and difficulty levels provide them a sense of self-sufficiency. The desire for achievement is closely associated with the dares and competence acquired when performing a task (Ryan et al., 2006). The consumers feel a sense of competence as they move from one level to another using the Language apps and receive feedback. This evokes a feeling of autonomy as they feel they have acquired the requisite language efficiency. They can compare their performance with their peers and friends, which further strengthens their feeling of accomplishment. Finally, components like rankings foster a sense of connectedness with others by allowing them to relate with others. As such, it was hypothesized that

H1. Users' interactions with gamified Achievement-associated features in Language learning apps have an affirmative effect on brand engagement.

Absorption-associated interaction features appeal to the users' desires to escape from the tangible factual mundaneness to new simulated dreamlike locations, through role-play and game narratives (Ryan et al., 2006) used in Language learning apps. Most apps use narratives or storylines, each linked with an activity or task. Users complete each task and move on, which fosters their competence. The apps also provide a personalized experience that adds to the competence experienced by the consumers, giving them the choice to select the level or course of learning the language. These features comprise narratives, avatars, narratives, etc. (Koivisto & Hamari, 2019). In short, the gamified interactions impact satisfaction by fulfilling the consumers' psychological needs (Xi & Hamari, 2019). However, their effect on brand engagement is still unclear. Consequently, it was hypothesized that:

H2. Users' interactions with gamified Absorption-associated features in Language learning apps have an affirmative effect on brand engagement.

Social-associated interaction features comprise all those interactions which call for competing, cooperating, and networking with others (Koivisto & Hamari, 2019). Research indicates social features inculcate a sense of belonging and relatedness among consumers (Sailer et al., 2017). Prior research has found that these features impact the need for relatedness while competition emboldens characters to strive towards a single motive (van Roy & Zaman, 2019), teamwork boosts the desire to toil collectively for acquiring the main objectives (Sailer et al., 2017), and interactivity permits the consumers to stay connected. The inclusion of such features in Language learning apps assists the consumers in interacting and sharing details with others, which fosters a feeling of belonging and relatedness among them. They enhance the desire to improve language skills and knowledge. They also help in enhancing the consumers' communication skills which help in building social relations. Thus, it was assumed that:

H3. Users' interactions with gamified Social-associated features in Language learning apps have an affirmative effect on brand engagement.

2.2 Gamification interactions and brand engagement

Research has established gamified interactions affirmatively influence brand attachment (Yang et al., 2022), brand experience (Merdiaty & Aldrin, 2022)), brand love (Hsu & Chen, 2018), brand responses (Lee & Ho., 2022), brand association (Nobre & Ferreira, 2017), brand equity (Kushwaha et al., 2020) and brand attitude (Yang et al., 2017). Despite extensive research on brand association with brand connection (Arya, et al., 2018, 2019, 2021), a thorough investigation of the influence of gamification interactions on the brand-consumer relationship is limited (Koivisto & Hamari, 2019), especially regarding Language learning apps. Additionally, there is a lack of substantiation on the efficiency of gamified interaction on brand engagement and brand relationship, which are the main constructs for assessing the métier and worth of the Language learning app brands.

Extant literature has confirmed that the brand interactions cause an experiential state termed 'brand engagement' (Calder et al., 2009). Brand engagement can be defined as a notion that may be advanced from a variety of perspectives that capture and explain the nature of interaction that consumers display towards Language learning apps; these may be extended to investigate marketing engagements by persuading intended outcomes (e.g., brand commitment to Language learning apps) or dissuading from unintended actions (e.g., switching from one Language learning brands/apps to another). App brands build standards of trust and reciprocity, creating prospects for involvement by helping consumers to remain associated with the brand and expanding their cognizance of brands (Gil de Zúñiga et al., 2012). This engagement has been considered a one/multi-dimensional (Shen et al., 2019; Verhoef et al., 2010) construct. It encompasses emotion (or affect), cognition, and social behavior. Brand engagement may be used as a strategy to build a relationship between Language learning app brands and users. It may be considered a significant element in the brand-consumer relationship. Consumers with greater involvement with the brand stay more satisfied with the brand (Weiger et al., 2017). Additionally, when they actively connect with a brand, they are more likely to promote it to others and are more likely to purchase it (Hutter et al., 2013) or to buy premium plans offered by the Language learning app. Engagement satisfies and fulfills the sense of belonging (Agarwal & Mewafarosh, 2021). Based on the literature review, it was hypothesized that brand engagement will be associated with brand-consumer relation parameters in the context of Language learning apps.

H4A: Users' perception of Brand engagement has an affirmative effect on Commitment in brand-consumer relations.

H4B: Users' perception of Brand engagement has an affirmative effect on Trust in brand-consumer relations.

H4C: Users' perception of Brand engagement has an affirmative effect on Satisfaction in brand-consumer relations.

2.3 Brand-consumer relationship parameters

For a better comprehension of the brand-consumer association in the context of Language learning apps, relationship parameters were measured for understanding the relationship quality (Ferro et al., 2016; Habeeb et al., 2021). Brand relationship, also termed a consumer-brand relationship, refers to the associations/relations consumers feel, think, and maintain with a brand/product (Veloutsou, 2007). The essential constructs for managing brands are commitment, trust, and satisfaction (Jiang et al., 2016; Jain et al., 2021; Jhamb et al., 2021), with commitment and trust being important for satisfaction. Language learning apps users' commitment and trust are prerequisites for brand-consumer satisfaction. Preparedness to accommodate the demands of consumers in building and sustaining relations over a longer length of time is essential for marketing and relational outcomes (Lui et al., 2009). Trust and commitment are crucial components in creating relationships (Morgan & Hunt 1994). In the brand-consumer connection, trust is critical (Dwyer et al., 1987), and is described as a desire for depending on a partner in whom he can confide (Moorman et al. 1992). When partners in a relationship trust one other, they commit to each other (Chou & Chen, 2018). Commitment can be understood in contradiction with susceptibility (Morgan & Hunt 1994); consumers instead prefer reliability. It acts as a barometer to check the faithfulness (Miglani, 2018) of others. According to previous research, trust is a prerequisite for commitment (Chou & Chen, 2018). Huang (2017) discovered brand love and trust elicited sensory, cognitive, and behavioral responses, and resulted in brand commitment. In short, trust is important for commitment in the case of Language learning apps:

H5A. Users' perception of Trust has an affirmative effect on commitment in brand-consumer relations. Satisfaction of the consumers with the usage of gamified interaction features in Language learning apps may be considered as an essential component of the brand-consumer connection. It denotes an effective condition of the outcome after comparing the relationship and expected performances (Wilson, 1995), based on actual evidence (Huntley, 2006). Skarmeas et al. (2008) contend that establishing strong relations without trust and

commitment is impossible. Trust is based on confidence in the apps' reliability and trustworthiness. Trust is needed (Gong et al., 2022) as it serves a behavioral purpose concerning assurance for the relationship (Moorman et al. 1993). Therefore, trust based on the fulfillment of all user aspirations with the gamified interaction features in learning apps is important:

H5B: Users' perception of Trust has an affirmative effect on satisfaction in brand-consumer relations.

Performance assessment encompasses the aspects of relations, which include tangible/intangible aspects of relations (Parsons, 2002). Tangible/intangible performances take into account the quality of relations based on not only trust, but also commitment. Commitment is fundamental for maintaining relationships (Morgan & Hunt, 1994). Commitment denotes a longing to maintain relations between the users and the app brands. The current study framed the following hypothesis:

H6: Users' perception of Commitment has an affirmative effect on satisfaction in brand-consumer relations.

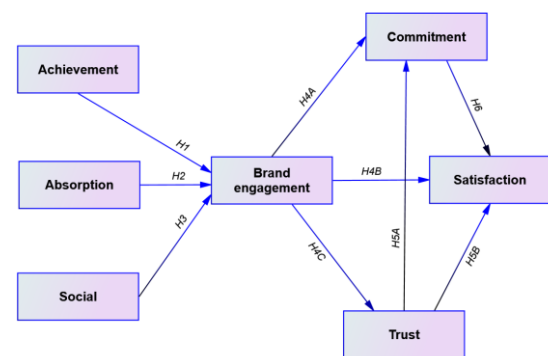


Figure 1. Conceptual model and hypothesis
Source Author's Own- based on extant literature

As demonstrated in Figure 1, the present study develops a conceptual model of how gamified-interaction features in Language learning apps affect brand engagement and consumer-brand relationship parameters. It consists of three main components, Gamified interaction features comprising Achievement, Absorption, and Social interactions, Brand engagement, and Brand-consumer

relationship parameters comprising Trust, Commitment, and Satisfaction with the hypothesized paths.

3. METHOD

3.1 Data collection and Instrument Development

To scrutinize the relations between the select factors and to test the proposed conceptual model, an e-questionnaire was used for the collection of data. Data was collected in March 2022, using Convenience Sampling Technique (Rashid et al., 2022; Sharma et al., 2021). There were seven constructs in this study. All were based on extant studies and were quantified on a Likert scale (from 1=strongly disagree, to 5=strongly agree). The gamified interactions were considered as independent variables and were measured using three items each, except achievement, which was measured using four items; all items were modified and adapted from prior studies (Xi & Hamari, 2020). Furthermore, brand engagement was measured using three items adopted and modified from prior studies (So et al., 2014; Vivek, 2009; Vivek et al., 2014). For commitment, trust, and satisfaction a three-item scale was used for each, founded on earlier works by Mysen et al. (2011), Poppo et al. (2008), and Andaleeb (1996), respectively.

3.2 Sample size and participants

The population of the study included respondents who had been using Language learning apps for Language acquisition. Prospective respondents should have experience using Language learning apps to participate in the study. As such, the users studying at one institute were chosen; they had been using the apps for Language learning for at least two months. The sample consisted of 152 respondents; the response rate was 95%. Allowing for 10-time guideline for sample size, which states that the size of the sample must be ten times the number of inward paths of the construct with the utmost inward paths (Hair et al., 2017), the present sample size was considered adequate. Moreover, G*power 3.1.9 software was also used to check the sample size adequacy (Faul et al., 2007; Sharma et al., 2021, 2022a, 2022b). Dattalo's (2008) proposed settings were utilized ($\alpha=0.05$, $\beta=0.95$, and effect size $f^2=0.15$). The minimal sample size for the investigation was 146 when the error probability is 0.05 and the confidence level is 95 percent. The results also suggest that the

sample size of 152 is sufficient for the present study.

Among the respondents, twenty-five percent were female and seventy-five were male. Thirty-four percent came from rural family backgrounds, whereas sixty-six percent came from urban family backgrounds. Twenty-one percent came from Hindi-medium schools, while seventy-nine percent came from English-medium schools. The average age was 18 years old, ranging from 16 to 20 years. The users had set their preferred language to English, and attempted preliminary tests that checked their prior language skills before they commenced with further levels. They learned English as the second language; they progressed on, earning points /badges /bonuses, and continued using the apps, completing lessons/tasks per day (Achievement), getting rewards on challenge completion (competition) (Nah et al., 2013), and interacting using networking (social), with peers/friends and accomplished tasks and competed with each other with immersion (absorption). Moreover, there were no restrictions/compulsions, as the respondents were free to make their own decisions and switch brands/ apps, since if the apps are made compulsory/ used under pressure, the predictions made would not hold.

3.3 Common method bias CMB evaluations

The current study used a quantitative approach, based on data collected using a single survey of self-reported metrics. To overcome CMB, statistical and procedural approaches were applied (Podsakoff et al., 2003). In terms of procedures, individual involvement was deliberate, and the author assured the respondents' privacy and discretion to minimize the likelihood of dishonest or insincere responses (Podsakoff et al. 2003). Furthermore, the in/dependent constructs were presented in distinct sections in the e-survey form, making it impossible for respondents to draw cause-effect links between the constructs. Second, a comprehensive variance inflation factors (VIFs) based collinearity test was conducted as part of the statistical process. This test stipulates that a VIF score above 3.3 (Kock, 2015) indicates the existence of common method bias. The VIFs ranged from 1.355 to 2.264. As a result, there was no evidence to show the presence of CMB.

4. DATA ANALYSIS

Data were subjected to a test of multivariate normality with the free WebPower online software. Outcomes displayed that the distribution was not normally distributed as specified by Mardia's multivariate kurtosis ($\beta = 104.96$, $p < 0.001$) and skewness ($\beta = 15.45$, $p < 0.001$); as such, it was considered the sample does not come from a normal distribution. The partial least square (PLS) SEM utilizing SmartPLS 3.2.9 application (Ringle et al., 2015) was used since it is a suitable approach due to the lack of multivariate normality. Moreover, the model was complicated and comprised multiple indicators and variables; as the sample size was also below 250, PLS was considered an apt approach in comparison to others, e.g. covariance-based SEM (Hair et al., 2011).

4.1 Measurement Model Assessment

The model's reliability and validity were evaluated. The reliability was assessed using item reliability with factor loadings above 0.6. Four items, one each from Competition, Trust, Commitment, and Satisfaction was omitted due to poor loadings. The loadings for each item were statistically meaningful at 0.01 indicating good item dependability. However, based on measurement model results, four items were omitted from further study, due to poor item loadings. Furthermore, all of the constructs were logically coherent, as measured by composite reliabilities (CR) which was 0.7 or above (Nunnally & Bernstein, 1994) as indicated in Table 1. The validity test was conducted and each factor was observed for average variance extracted (AVE), which was found to be higher than 0.5 (Fornell & Larcker, 1981. The Stone-

Table 1 Measurement model assessment

Constructs	Items	Loadings	VIF	rho_A	CR	AVE	R ²	R ² Adj	Q ²
Achievement	A1	0.792	1.495	0.843	0.841	0.571	0.626	0.619	0.326
	A2	0.741	2.230						
	A3	0.781	1.985						
	A4	0.704	2.264						
Absorption	ABP1	0.692	1.398	0.792	0.789	0.556			
	ABP2	0.750	2.049						
	ABP3	0.791	1.923						
Social interaction	SI1	0.637	1.355	0.703	0.700	0.527			
	SI2	0.806	1.355						
Brand engagement	BE1	0.840	2.088	0.868	0.867	0.620			
	BE2	0.769	1.971						
	BE3	0.760	2.191						
	BE4	0.778	2.038						
Trust	T1	0.803	2.014	0.835	0.832	0.713	0.169	0.163	0.095
	T2	0.883	2.014						
Commitment	C1	0.889	1.803	0.816	0.806	0.677	0.539	0.533	0.304
	C2	0.751	1.803						
Satisfaction	SAT2	0.703	1.500	0.744	0.737	0.584	0.648	0.643	0.335
	SAT1	0.822	1.500						

Source: Author's Calculation

Table 2 Discriminant validity analysis

	Achieve-ment	Brand engagement	Commit-ment	Absorp-tion	Satisfac-tion	Social interaction	Trust
Achievement	0.755						
Brand engagement	0.684	0.787					
Commitment	0.531	0.435	0.823				
Absorption	0.565	0.709	0.523	0.745			
Satisfaction	0.740	0.542	0.771	0.492	0.770		
Social interaction	0.438	0.591	0.578	0.762	0.505	0.726	
Trust	0.671	0.411	0.718	0.520	0.659	0.731	0.844

Source: Author's Calculation

Geisser test was used to determine the model's predictive significance. The findings revealed, in particular, that the Q² estimation for the DV was affirmative. Standardized Root Mean Square Residual (SRMR), demarcated as the variance in the implied and observed correlation matrix, was used for testing model fit. The estimation was below 0.08 (Hu & Bentler, 1999) i.e. 0.047, which was considered adequate (Henseler et al., 2014). Normed Fit Index (NFI)/ Bentler and Bonett Index closer to 1 represent better results. The findings indicated NFI=0.876, which was considered an acceptable fit.

The AVE square root of constructs was more than the correlations between the construct items (Fornell & Larcker, 1981) as displayed in Table 2 in bold fonts. The HTMT ratio has to be less than 0.9 for data to be valid. The highest HTMT value was 0.780; all values were below 0.9 and were within the prescribed limit for confirming discriminant validity. The results for the HTMT ratio are shown in Table 3.

domicile (rural/urban), and medium of education (Hindi/English). Recent scholars have recommended this control-variable technique (Hult et al. 2018).

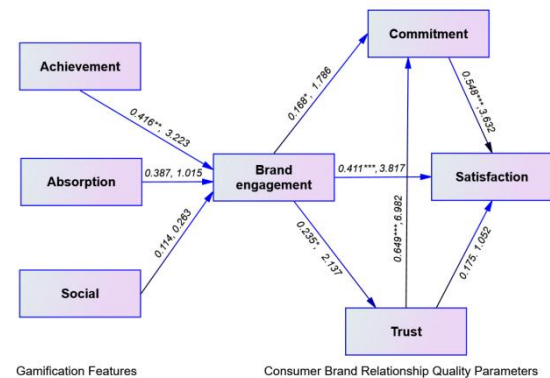


Figure 2. Research model showing β and t values (Significance level $* < .05$, $** = .001$, $*** < .000$)

Source author's own, based on Calculations

The findings showed that interacting with gamified achievement-associated interactions in Language learning apps influenced brand

Table 3 HTMT ratio

	Achieve-ment	Brand engagement	Commit-ment	Absorp-tion	Satisfac-tion	Social interaction	Trust
Achievement							
Brand engagement	0.681						
Commitment	0.529	0.435					
Absorption	0.562	0.710	0.526				
Satisfaction	0.759	0.544	0.780	0.498			
Social interaction	0.444	0.596	0.578	0.771	0.501		
Trust	0.671	0.410	0.722	0.521	0.672	0.738	----

Source: Author's Calculation

4.2 Structural Model Assessment

The model explained 61.9 percent of the variance in brand engagement, 53.3 percent of the variation in Commitment, and 16.3 percent of the variation in Trust. Lastly, it showed a 64.3 percent variation in brand satisfaction. The formulated hypotheses were examined using standardized path coefficients, which were computed using the bootstrapping approach with 500 re-samplings. Finally, four control factors are included in the study, coded as dummy variables (0, 1) for controlling Endogeneity, which may render the results inconclusive. These included gender (male/female), age (below/above 18),

engagement positively and significantly ($\beta = 0.416$, $t = 3.223$), confirming H1. Gamified Absorption-associated interactions had a minor positive but negligible influence on brand engagement ($\beta = 0.387$; $t = 1.015$); gamified social-associated interactions had no significant influence on brand engagement ($\beta = 0.114$, $t = 0.263$). Thus, H2 and H3 were rejected, respectively. When employing the language learning apps, the results showed that brand engagement exerted an affirmative substantial effect on brand trust ($\beta = 0.411$; $t = 3.817$), brand commitment ($\beta = 0.168$; $t = 1.786$), and brand satisfaction ($\beta = 0.235$; $t = 2.137$). As a result, H4B, and H4C were validated; H4A was

partially validated at $p=0.05$. Furthermore, brand trust was found to have a strong substantial affirmative effect on commitment ($\beta=0.649$, $t=6.982$), based on which H5A was validated; brand trust had no substantial influence on satisfaction ($\beta=0.175$, $t=1.052$), leading to the rejection of H5B. Finally, the brand commitment had an affirmative effect on brand satisfaction ($\beta=0.548$, $t=3.632$), which supported the validity of H6 (Table 4, Figure 2).

relationship based on extant literature. To fill the research gap identified, due to the paucity of empirical data on how gamified interactions boosted brand engagement and the quality of the relationship between consumers and brands, the current study focused on three categories of gamified interaction features: achievement, absorption, and social interaction in the context of Language learning apps. The study found that gamified interactions facilitated brand engagement, thereby satisfactorily answering the first

Table 4 Hypotheses Testing

Hypotheses	β	STD	T	P	CI LL	CI HL	Results
H1:Achievement -> Brand engagement	0.416	0.129	3.223	0.001	0.129	0.619	Accepted
H2:Absorption-> Brand engagement	0.387	0.381	1.015	0.311	-0.878	0.907	Rejected
H3:Social -> Brand engagement	0.114	0.433	0.263	0.793	-0.695	1.004	Rejected
H4A :Brand engagement -> Commitment	0.168	0.094	1.786	0.050	0.008	0.373	Partially Accepted
H4B :Brand engagement -> Trust	0.411	0.108	3.817	0.000	0.189	0.607	Accepted
H4C :Brand engagement -> Satisfaction	0.235	0.110	2.137	0.033	0.023	0.446	Accepted
H5A: Trust -> Commitment	0.649	0.093	6.982	0.000	0.471	0.845	Accepted
H5B: Trust -> Satisfaction	0.175	0.166	1.052	0.293	-0.148	0.470	Rejected
H6:Commitment -> Satisfaction	0.548	0.151	3.632	0.000	0.258	0.817	Accepted

CI LL- confidence level low level=2.50%, CI HL-confidence level high level=97.50%

Source: Author's Calculation

Next, the four control variables were included, and bootstrapping was done again, to find if the control variables exerted any effect on the results to check for Endogeneity issues, which can be mitigated by using control variables (Papies et al., 2016). The results upon the inclusion of the control variables revealed that none of them had a significant effect on the dependent variable Satisfaction. Even though the method may assist in addressing the problem of Endogeneity (Papies et al., 2016) in the model, the researcher recognizes the concerns are not likely to have been circumvented, even in the presence of control variables. Hence, the issue may be viewed as a limitation of the present study.

5. DISCUSSION

The present study developed a model grounded on Self-Determination Theory for investigating the influence of users' interaction with achievement, absorption, and social interaction gamification features in the Language learning apps and their perceptions of brand engagement and brand consumer

research question formulated. However, the outcomes of the study demonstrated that only gamified achievement interactions significantly facilitated brand engagement, as such hypothesis H1 was validated. In terms of achievement features, these were more important in the eyes of consumers, as they provided a sense of accomplishment at having learned the language, such as having points/coins/insignia. Becoming a member team/group, as well as competing/ cooperating with networks through app features like messaging/ chat-box, etc. provided the consumers a feeling of belonging to each other, but it seems the same did not apply to their sense of belonging to the brand community. All gamification features were positively linked to engagement; however, the results indicate the in the case of absorption gamified interaction the effect was positive was not strong on brand engagement as such hypothesis H2 was rejected.

One possible explanation for the discrepancy between the present results and previous

studies is that features like personalizing/ profiling/ making virtual identity/avatars present a social experience by allowing consumers to display information about themselves to others, which can make it easier for them to provide details about themselves/ the brand rather than help and assist them in learning a language. If the app solely provides gamified absorption-associated interactions, it will not draw the attention of consumers who might want to utilize it for language acquisition. Furthermore, getting medals/badges can instill a sense of competence in users, since they start believing they have acquired the necessary abilities to attain their objectives. Consumers prefer to feel greater freedom while operating the apps, thus components like progress blocks and difficulty levels may provide them a sense of self-sufficiency. Finally, components like rankings may foster a sense of connectedness with others by allowing them to relate to others. The findings are consistent with prior research in education using the online brand (van Roy & Zaman, 2019), which established gamified achievement elements helped consumers feel proficient as well as independent.

The influence of gamified social-related interaction features (for instance, competitiveness, networking, and collaboration) was favorable but not statistically significant due to which hypothesis H3 was rejected. Prior research has found that the social elements have an impact on the satisfaction of the need for relatedness while teamwork boosts the desire to toil collectively for acquiring the main objectives (Sailer et al., 2017), and competition emboldens characters to strive toward a single motive (van Roy & Zaman, 2019), and interacting permits the consumers to stay connected. These current finding extends previous investigations on interactivity (Hanaysha et al., 2021), which specifies consumers play an active part while interacting with the situation/environment (van Noort et al. 2012).

With regards to research question 2, brand engagement was found to be associated with consumer brand relation quality parameters, trust, commitment, and satisfaction. All three hypotheses, H4A, H4B and H4C were validated. Brand commitment showed a positive significant association with trust,

while brand satisfaction had a positive significant association with commitment. Thus, the study confirms numerous prior brand-consumer relationship studies on engagement, trust, satisfaction, and commitment. The present study demonstrated the constructive influence of brand engagement with the Language learning apps was desirable for brand consumer relationships, and consequently, marketing outcomes. It implies that the consumers who developed trust, and commitment using the gamified learning app may endorse it to others, have constructive things to say about it to others, and use it in the future.

The third research question sought to gauge the influence of brand trust and commitment on brand satisfaction among Language learning app users. The findings affirmed trust influences commitment as perceived by the users of Language learning apps based on which Hypothesis H5A was validated but the influence of trust on satisfaction though positive was not statistically significant. As such, hypothesis H5B was rejected. The results confirmed that trust is an important factor in commitment, endorsing prior studies which found that commitment is 'the basis of the consumer-brand relationships' (Chaudhuri & Holbrook, 2001; sethi et al., 2021). The findings established that commitment influences brand satisfaction, in the context of Language learning apps, which confirms preceding studies (Farrelly & Quester, 2005). These psychological and emotional elements experienced by the consumers towards the brand were found to be crucial factors in the context of Language learning apps, in India. To sum up, the current study supports prior studies which found that gamified features positively affect user commitment (Huang & Soman, 2013), as well as constructively influence the language learning process.

5.1 Theoretical Contributions

This research complements the body of research in several ways. Firstly, the current study answers to appeals for more studies exploring the influence of gamified interaction on engagement, trust, commitment, and satisfaction, in the context of digital language acquisition grounded on Self-Determination Theory. Furthermore, it builds on prior gamification research by examining how different gamified interactions affect brand

engagement differently. While earlier research, based on theoretical frameworks on gamification is quite uncommon (Sailer et al., 2017), studies that give empirical proof of gamification success in the context of consumer-brand relationships are even scarcer. Thus, the study fills the research gap, by complementing the extant literature on gamified interaction features in Language learning apps.

Recent literature evaluations have demonstrated an absence of appreciation regarding the impact of countless gamified interactions, as researchers have been concentrating more on gamification as a distinct notion (Johnson et al., 2016; Sailer et al., 2017); the investigation examines the impact of three diverse kinds of gamified interactions on brand engagement. Moreover, previous research has mostly focused on examining individuals' behavioral intent rather than brand relationship quality parameters; this study adds to the gamification writings by concentrating on consumer opinions and marketing in the context of Language learning apps.

5.2 Managerial Contribution

The current research offers several practical implications for enhancing the gamification features of Language learning apps and their success in the Indian market. To successfully build and execute such gamified apps, it is essential to comprehend the effect of gamification interaction on the consumers. It is recommended that these applications be created in such a way that they can visually register and record the results/progress of language learning. The app developers may incorporate more enhanced gamified design aspects and interaction features to inspire and motivate consumers. They may also integrate more interactive features into gameplay for language learning. Apps, for example, may provide consumers with a variety of alternative language challenges, as well as award them with various badges based on their achievements. To keep their attention, the challenges may be built with rising difficulty intensities to make them know they are progressing and ensure they are learning. Thus, along with interactivity, Language learning apps may provide an ideal/optimum level of challenge.

To increase brand engagement, app developers should strive for being genuine as it enhances brand engagement and attachment (Arya et al., 2018). They should integrate accomplishment components in the app design, such as rankings, etc. The gamified elements need to be made very interactive and achievement-oriented to generate experiential involvement among consumers, expediting the formation of brand engagement. Consumers should have the ability to compete/collaborate with friends as well as with the brand community at large, to foster a sense of accomplishment. For this, Language learning apps should include diverse challenges requiring collaboration (for instance, a task/challenge may be given in which the consumers can invite others to accomplish a language learning task in a given period) or foster competition (for instance, a task/challenge may be given in which the consumers can invite others to accomplish a language learning task collaboratively). As the challenge perception will depend on the consumers' skill and language proficiency, the language apps should be designed with several levels (from elementary to advanced levels) and have the capacity of aligning challenges/tasks with language skills.

While the current study failed to confirm that absorption/social-related interactions influence engagement, app developers may permit the consumers to engage with these aspects if they want to make them feel competent when using the apps for learning. In conclusion, the findings of this study assist in determining which gamified interaction elements are associated more strongly with brand engagement. As a result, app developers and other entities can focus on the more relevant ones. Furthermore, the crucial implication for brands is that all relationship quality parameters exert an affirmative significant impact on satisfaction; they play a positive role and intensify the brand-relationship quality.

5.3 Future Scope & Limitation

Although the present study has several strengths, it has its limitations too. It examined consumer engagement with language learning apps only, so the findings cannot be extended to other contexts. Future studies may look into additional apps with gamified features. Furthermore, the gamification elements may

be implemented differently across diverse services, and so a study method concentrating on assessing each mechanic separately may result in a loss of external validity. The collected data, as is customary with survey-based studies, comprises self-reported variables, and may be biased. Furthermore, because this study was focused on Indian consumers only, the results can change with cultural contexts or usage purposes. The current study considers brand engagement as a one-dimensional construct (Xu et al., 2017), which may also be seen as a limitation of the current study, as absorption and social interaction features may not significantly influence brand engagement in its totality, but influence only certain aspects of engagement. Future studies may examine the associations between gamified interactions and different aspects of brand engagement; this may better provide a better appreciation of the gamified experience of consumers.

6. CONCLUSION

To summarize, the study investigated the function of gamification in Language learning apps, and evaluated the associations between gamified interaction elements, engagement, and quality metrics of brand-consumer relationship (Trust, Commitment, and Satisfaction). It was found that achievement-related gamified interactions effectively engage and encourage consumers as a creative marketing tactic, as well as stimulate consumer behaviors. Overall, the findings indicate that these gamified interactions have a large impact on consumer brand engagement; moreover, engagement affects trust, commitment, and contentment; and brand commitment has a significant impact on satisfaction. Brand engagement impacts the quality of brand-consumer relationships, based on empirical evidence. In comparison to previous research on brand engagement, the current study conducted a more thorough examination based on actual evidence. This research also successfully demonstrated that brand-consumer relationships may be strengthened through brand engagement for gamified language learning. In short, gamified interactions can be used for enhancing engagement and relationship quality for brand building in Language learning apps in India.

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IMPACT OF BRAND AWARENESS ON ENROLLMENT DECISION PROCESS MODERATED BY STUDENTS GENDER FOR HEI

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ABSTRACT

The increasing competition in higher education institutions has made brand awareness an integral part of their marketing activity, to increase student enrollment rate. The study investigates the factors of brand awareness and its relationship with each stage of a student's enrolment decision process, keeping student's gender as moderator. Primary and secondary sources were used to do the research. A structured questionnaire was framed and data was collected from 1000 students from management colleges and schools. Factor analysis, Structural equation modeling and moderation analysis is used in the study. The finding reveals that there is a relationship between brand awareness and students decision-making process. Even when student's gender is acting as a moderator, the impact of factors of brand awareness can be seen on each stage of decision-making process. All five hypotheses were accepted. Factors of brand awareness were identified. These factors showed a significant impact on students' enrolment decision process, even when moderated by students' gender. The article contributes in understanding the role of brand awareness in each stages of enrollment student's decision making for higher education institutions. These institutions should focus more on brand awareness programs as it may result in the increase of student's enrollment number for higher education institution.

Keywords: Branding; Brand recognition; Brand recall; Higher Education; Enrollment; Structural Equation Modeling

1. INTRODUCTION

Zang (2020), states that in the decision-making process of consumers, brand awareness assumes an imperative role. High brand awareness creates an impact in the consumer cognition process in a way that they can easily, with less effort remember and differentiate the brand. In case of low brand awareness, it takes time to create an impact the consumer cognition process. Therefore, consumers prefer those brand which have created brand awareness to those, which have not. Today the development of internet technology has changed the manner in which businesses and communication are done as social media has brought together people from all over the world (Chatterjee & Kar, 2020). Internet today has given the customers the facility to get any required information from different sources.

Consumers can themselves gather the necessary data that they are searching. It is through the sites that brands are speaking with their clients. By utilizing the web, clients have gotten to enormous quantities of data from around the world. With just a tick, customers can gain critical pieces of information about associations and their things and be aware. Therefore, it has become important for organizations to use internet to create and increase brand awareness as it is more advantageous (Jain & Yadav, 2017; Chan et al., 2015). Brand awareness influence the decision making process of a student while deciding for a university and whether to continue or not in the same university for further studies. Brand awareness creates an image of the university, which may attract students. So, if a college or a university have

high brand awareness they will high brand image and will attract more students (Mulyono, H. 2016). Consumers prefer that brand which they have are aware of rather than ones which they are not. This makes brand awareness important in decision-making process (Huang & Sarigollu, <https://www.tandfonline.com/doi/full/10.1080/23311975.2020.1787733>2012). There is a strong tendency to purchase the brand by those consumers who can recognize the brand. In case of higher education institution brand awareness is important as it influences the decision making process if students (Brewer & Zhao, 2010). Brand awareness is the fundamental component of brand equity, which is seen as an important pre-condition of decision-making process for consumers. Brand awareness creates familiarity between brand and the consumer, which may reduce the risk perceived by the consumers related to the brand. Further, brand awareness has two important components one is brand recall and the other is brand recognition. These two components influence the decision making process in their own ways (Moisescu, 2009). One can define brand awareness as the ability of the consumers to recall or recognize the brand during the decision making process or at least know the brand (Keller, 2008). Bunzel (2007) states that in the present scenario there is a high competition in higher education sector just like any other businesses. Therefore, one cannot ignore building brand and creating brand awareness of their institution. The publications give rankings to these institutions are helpful while attracting students. These ranking increases the brand of the college. Therefore, there is no denying of the fact that a college needs marketing, rankings and better brand awareness programs. Acquaintance between a customer and brand creates brand awareness. It creates stimuli like responses from clients where they can go through recalling, recognizing and be familiar with that brand. A brand that as of now exists utilizes a procedure called brand reinforcement to increase their brand awareness (Percy et al., 2006; Islam et al., 2021). According to Gibbs & Dean, (2015) awareness created by higher education institutions will help the students in their decision making process. Higher education enrollment decision is a very big decision for students. A trust has to be their within them for a higher education institution so that they

think about considering that institution for enrollment. Therefore, it is important for the institutions to make students and their customers aware about themselves and the facilities and products that they are offering.

The purpose of the study with research gap is: to show the factors of brand awareness in case of higher education institution. To fill in the gaps of the previous findings which show that brand awareness is important in consumer decision process and help the students in their decision making process for enrollment but does not show the impact that brand awareness may have on the each step of the enrollment decision making. Further, there is not much literature that is available on impact of brand awareness on stages of enrollment decision making process. Therefore, the study fills this gap and shows the impact of brand awareness on student's enrollment decision making process. The study address three main questions: a) what are the factors of brand awareness that influence enrollment decision making process, b) what is the impact of brand awareness factors on enrollment decision making for higher education institution, and c) is the enrollment decision making process moderated by students gender or not.

Practically it is going to help higher education institutions by giving them a deeper understanding of the role-played by brand awareness in higher education institution thus, helping them in increasing their enrollment number. This will help the institutions to be more competitive. The study shows that on each step of the enrolment decision brand awareness plays a role.

2. LITERATURE REVIEW

2.1 Brand awareness Importance in Higher Education Institution

Higher education is supposed to be vital as it prepares the students for future. For students higher education fills them with three significant needs. One is to get ready for the work market. The students believe that higher education degree is vital for becoming a professional worker and get the job. The second one is self improvement and development. The third is to do good for the society and its development i.e. that is the feeling of commitment that they need to make towards the public (Brooks et al., 2020). Keller (2019) concluded that there is relationship between brands and consumers, as they both existence depend on each other. Brands are

created for consumer and there is value for brands in consumers mind. Students need good higher education institutions and higher education needs good and capable students. There are number of higher education institutions but the one that can position itself well is the one that will attract more good students. Awareness has to be made for everything that the institution can give them, positioning themselves well in the students mind (Mestrovic et al., 2019). According to Gielens& Steenkamp (2019) the internet has created a buzz in the marketing segment and has made everyone dependent on it. By utilizing distinctive advertising on the web devices the associations be it any, are coming in direct contact with their clients. Internet is furnishing associations with significant data in regards to their clients, in this way further providing better facilities to their clients. Therefore, even for higher education institutions it is necessary that they use creative and aggressive marketing strategies (Kusumawati, 2019). Marketing done on the digital platform by the brands create a positive brand attachment between the consumer and the brand , as these marketing campaigns induces brand engagement via social networking sites(Arya et al.,2018; 2019, 2021; Jain et al., 2021; Jhamb et al., 2021).A university needs to be recognized by their names and for this marketing is very important. Therefore, a university cannot ignore brand awareness, for recognition brand awareness has to be created. To create brand awareness different marketing strategies needs to be adopted by the universities (Abbas, 2019). According to Zhou et al., (2021) digitalization has given an online platform which is being used by the marketers to create a brand and increase product awareness all this is a result of advancement in technology. Consumers today by the means of online media communicate, sees reviews, ratings and recommendation for a product and all this influence the purchase decision (Rashid et al., 2022). Bhattacharya & Faisal (2020) stated that Covid-19 gave more reasons to the higher education institutions and universities to use more of social media platforms for branding purpose. Universities with the help of social media can improvise their brand awareness programs and brand performance. According to Arya et al., (2022) marketing activities needs to be refined by brand, as brand communication has influence on consumers.

According to Reddy, et al., (2016) if students are not aware about the facilities and courses that a university is offering them then that little awareness may not be helpful in attracting the students. Hence, may not result in university enrollment.

2.2 The importance of brand awareness in enrollment decision making

Now a day, it has become important for higher education institutions to do branding. Branding increases the enrollment rate of students. They help universities and colleges to attract students (Alam et al., 2019). Khurram (2018) states that when it comes to decision- making process brand recognition and recall has most important role to play. One can either recall a brand while thinking of the product or one can recognize a brand by seeing its symbol and more. Today any information that is required by anyone regarding anything is just a click away because of the internet. Therefore, it has become important to go for online marketing campaigns for all organizations (Jain&Yadav, 2017). Communicating brand using facebook alters the minds of the customers and boost the brand image and loyalty (Handa et al., 2018). Many factors that students consider while making their enrollment decision influence them. The most important is the information. Information that a student has in hands is very important factor. Therefore, higher education institutions need to reach out to their targets to give information. For all this institution needs to see that their marketing strategies are updated as this will help them grow (Cherkunova, 2016 ;Garwe, 2014).According to Shojae& Bin (2013) in case of online media, the effect of brand awareness is on customer engagement. It is advantageous to use social media to increase brand awareness. These days there are different online marketing techniques with which brand awareness can be created or can be increased (Karam, &Saydam, 2015). Alhaddad (2015) states that for creating brand awareness one can use online media substances like images, graphical data, recordings, and other substance. The posts set up via web-based media providing visual to individuals have more shots at being recalled and recognized by them. Furthermore sending such posts and receiving comments, makes the whole interaction as a procedure of publicizing powerfully. Keuschnigg (2015) if brand

awareness of a product is good then a positive word of mouth takes place for that products brand, thus increasing the number of customers. Such customers will not be affected by the price of the product as they will be ready to pay even if the price is more. According to Vijayalakshmi & Barani, (2015) there is no relationship between gender and brand awareness when it comes to higher education institutions. In addition, creating brand awareness is very important in the selection process of a college for students and for parents as top of the information is created by brand awareness. There are two main components of brand awareness; those are brand recall and recognition. Recalling a brand helps in recognizing a brand also (Rossiter, 2014). In case of high brand awareness, there are more chances for a brand to be recalled, increasing the possibility of brand to be selected by the customer (Lu et al., 2014). Joseph et al., (2014) states that a college's image and brand awareness can be made by the means of branding and communication strategies. In any event, when they are making a visit to the grounds, data assembled from known people and promotions done by, the colleges are significant for sharing data to the forthcoming understudies that prompts understudies taking their choice for choosing the college. A significant relationship was found between brand awareness and the market. The relationship is constructive. Brand gets a good result in the market (Homburg et al., 2010). According to Kim et al., (2008) Recognizing, recalling and creating top of the mind information of a brand are very important factors while going through the process of decision- making. At the hour of choice, brand recalling can happen as they may already have information about the brand. Brand awareness makes relationship of purchasers with that specific brand. At the point when one now knows about a brand, it gets simple for that purchaser to recall the brand. One can recall a brand easily when they have heard about it or have some information about it. Therefore, for any marketing strategy brand awareness is necessary. One should spend on the advertisements as it will help to increase brand awareness because the product or the brand will be seen repeatedly (Gil et al., 2007). According to Coates et al., (2006) familiarity with a brand plays an important role. Usually people will prefer that brand

which they have heard of or have known about rather than the ones, which they have never heard off. According to Macdonald & Sharp, (2000) one major purpose of all marketing activity is to create or increase brand awareness. Promotions are done with the goal that it tends to be recalled by the customers and will be considered by them when they settle on a choice. Higher the brand awareness, higher is the odds of the brand to be chosen by the purchaser.

2.3 College Enrollment Decision Process

According to Klaveren et al., (2019) the enrollment decision of a student and not dropping out from the institution during the first year depends on the information about the positive future performance that the institution can give them. Randall (1986) has stated college selection process, which consists of five steps. First being pre search behaviour where a student firstly decides whether or not he/she wants to really go for his or her higher education studies or not. After this stage is the search stage, where a student has decided to go for higher education studies and now wants to decide a higher education institution to study in. This is a stage where a student is continuously using all the resources for gathering information that they can about different colleges. After collecting information required by them, they move on to the next step that is sending applications. They apply in colleges; here few colleges have been selected to send applications. Most of the time students are not aware about the financial aids that a higher education institution can provide them with. The choice stage is where they get to know about it. Before this stage, they are not sure about how much or if a college is going provide them with the financial aid. This also affects their final choice that they make. As, they have all the information here, so they finally chose a college. After this, the final enrollment decision is left. Here, chances are there that a student may not complete the last stage as he or she may not join the college because of some problems or various other reasons. This is known as the matriculation stage.

3. HYPOTHESIS DEVELOPMENT

There is not much literature that is available on the impact of brand awareness on enrolment decision making process. Therefore, this study has been done to show the impact

of brand awareness on each stage of the enrollment decision making process. Further, the study also sees whether student's gender act as a moderator or not in between brand awareness and enrollment decision making process. Therefore, the following hypothesis was developed for each stage of enrollment decision making process.

According to Gibbs & Dean, (2015) awareness created by higher education institutions will help the students in their decision making process. Higher education enrollment decision is a very big decision for students. A trust has to be there within them for a higher education institution so that they think about considering that institution for enrollment. According to Vijayalakshmi & Barani, (2015) there is no relationship between gender and brand awareness when it comes to higher education institutions. In addition, creating brand awareness is very important in the selection process of a college for students and for parents as top of the information is created by brand awareness. From the above literature, one cannot know the effect of brand awareness on the first stage of enrollment decision making process moderated by student's gender. Therefore, this hypothesis was developed

H0₁:-There is an impact of brand awareness factors on the pre search behavior of enrolment decision moderated by student's gender

Many factors that students considers while making their enrollment decision influence them. The most important is the information. Information that a student has in hands is very important factor (Cherkunova, 2016 ;Garwe, 2014).According to Kim et al., (2008) Recognizing, recalling and creating top of the mind information of a brand are very important factors while going through the process of decision- making. At the hour of choice, brand recalling can happen as they may already have information about the brand. Brand awareness makes relationship of purchasers with that specific brand. From the above literature, we do not get to know that gender wise there is a difference or not in enrollment search behaviour of information of students for higher education, institution and its relationship with brand awareness. Therefore, this hypothesis was developed. Therefore, this hypothesis was developed.

H0₂:- There is an impact of brand awareness factors on the search behavior of enrolment decision moderated by student's gender

According to He et al., (2020), for a consumer being aware or familiar with the brand affects the liking for that brand, increasing the possibility of a brand to be chosen by the consumer. In cases of decision with not much involvement, just knowledge of the brand influence, the decision making process of the consumer. According to Popov (2019) the value of the degree, job opportunities and friends and relatives affect the application decision of a student. From the above literature, we do not get to know the brand awareness relationship with application decision stage in the enrollment decision-making process. Also, gender wise there is a difference or not in the application decision making. Therefore, this hypothesis was developed.

H0₃:-There is an impact of brand awareness factors on the application decision of enrolment moderated by student's gender

Brand awareness is the fundamental component of brand equity, which is seen as an important pre-condition of decision-making process for consumers. Brand awareness creates familiarity between brand and the consumer, which may reduce the risk perceived by the consumers related to the brand. Further, brand awareness has two important components one is brand recall and the other is brand recognition. These two components influence the decision making process in their own ways (Moisescu, 2009).

From the above literature, we do not get to know that brand awareness relationship with choice decision stage in the enrollment decision-making process. Also, gender wise there is a difference or not in the choice decision-making. Students for higher education institution are not known. The hypothesis was developed from the above literature review

H0₄: - There is an impact of brand awareness factors on the choice decision of enrolment moderated by student's gender

Brand awareness influence the decision making process of a student while deciding

for a university and whether to continue or not in the same university for further studies. Brand awareness creates an image of the university, which may attract students. So, if a college or a university have high brand awareness they will high brand image and will attract more students (Mulyono, H. 2016).

Consumers prefer that brand which they have are aware about rather than ones, which they are not. This makes brand awareness important in decision-making process (Huang & Sarigollu, <https://www.tandfonline.com/doi/full/10.1080/23311975.2020.17877332012>). According to Misran et al., (2012) career choice and students interest is are the main reason that will lead to matriculation decision. Further, they conducted a study on the engineer students, where they found out that the students were not aware about the dual degree program that the university was offering, in the early stages. This can affect the matriculation decision stage.

The students if are not aware about the different programs that a university can offer them, it may lead to losing students from the final matriculation stage. From the above literature; we do not get to know the brand awareness relationship with matriculation stage in the enrollment decision-making process. Also, gender wise there is a difference or not in the matriculation decision making. The hypothesis was developed from the above literature review

H0₅: - There is an impact of brand awareness factors on the student's matriculation decision moderated by student's gender

3.1 Research Methodology

This paper aims to find the relationship between factors of brand awareness and students enrolment decision making process for higher education institutions and also see whether it is moderated by students gender or not. By means of existing literature review the research gap was discern and the impact of brand awareness was tested on each of the steps of the decision making process of students enrollment. Descriptive and exploratory research is used. Factor analysis and structural equation modelling and moderation have been done in the study.

The questionnaire was developed and sample size was kept 1000. This sample was collected in Kathmandu from students who were in colleges, 600 data was collected from management students and 400 from science students.. The population was finite and non-probability convenience sampling method was used.

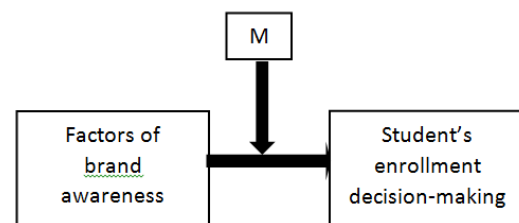
Figure 1: projected model (model we want to test)



Source: Authors

Here with the help of SPSS factor analysis will be done through which factors of brand awareness will be obtained. The impact of factors of brand awareness obtained will be tested by using structural equation modeling technique in AMOS.

Figure 2: projected model (model we want to test)



Source: Authors

For our research after testing the impact of factors of brand awareness on student's enrollment decision-making process, we will put moderation analysis. We will take students gender as moderators and with the help of AMOS and statistical tools; we will get the model for student's gender and the moderation result.

3.2 Data Analysis and Result

Descriptive statistics: Table 1 shows the demographic profile of the respondents, which will make it easy to understand the sample taken for the study.

Table 1: Demographic profile of the Respondents

Simple characteristics		Frequency
Gender	Male	588
	Female	412
Course	Under graduation	384
	Graduation	375
	Post-graduation	230
Age in years	18-20	251
	21-23	328
	24-26	341
	27-29	80

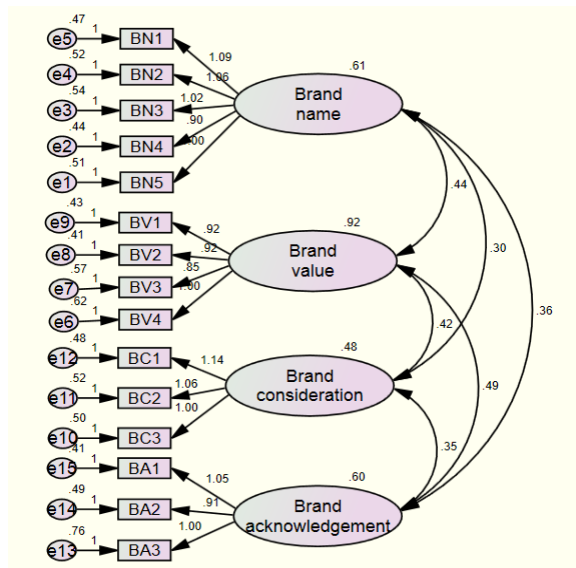
Exploratory factor analysis was done to get the variables from the data set. Kaiser-Mayer-

Olkin and Bartlett's Test of Sphericity is required to indicate whether to proceed with the factor analysis. KMO value if derived less than 0.05 then one cannot proceed with the data but values nearby 1.0 indicate that data is good to proceed. In this case, KMO is .913 and Bartlett's Test of Sphericity < 0.05 thus making factor analysis useful. By using rotation method in factor analysis, 4 factors of brand awareness were identified. Factors loading of these factors are higher than 0.05. Principle component analysis was done and that disclosed factor 1 had 42.569% variance, factor 2 had 10.831% variance, factor 3 had 7.839% variance and factor 5 had 7.011% variance. Table 2 shows the results.

Table 2: Exploratory Factor Analysis

Attributes	Factor loading			
	Component 1 (Brand Name)	Component 2 (Brand Value)	Component 3 (Brand Consideration)	Component 4 (Brand Acknowledgement)
Brand awareness helps to know about the existence of higher education institution	.745			
I trust more on brand names that I have heard	.799			
Brand awareness creates a positive image	.797			
Brand awareness helps you to be familiar with the brand	.697			
I prefer familiar brand than unfamiliar ones	.735			
I can recognize the brand name by their logo or symbol		.764		
Recognition of a brand name is important to make decision for higher education		.784		
Brand awareness increases the credibility of the college or university		.738		
Brand awareness of a higher education institution increases interest in that institution		.813		
Brand awareness can create a good impression about the brand			.737	
Brand awareness affects the decision-making process			.834	
Brand awareness allows name of the college to be in the minds of the consumers			.689	
While making decision one can recall the names of the brands				.734
Being aware about a college makes you search for more information that college				.710
Brand awareness helps in differentiating the products and services of one institution from others.				.795
Eigen value	6.385	1.625	1.176	1.052
Variance explained (%)	42.569	10.831	7.839	7.011
Cumulative variance explained (%)	42.569	53.401	61.240	68.251
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.913			
Bartlett's Test of Sphericity	Approx. Chi-Square	6917.737		
	Df	105		
	Sig.	.000		

Figure 3: Confirmatory factor analysis



Source: Authors

Figure 3, shows the confirmatory factor analysis model conducted for the study. Factors that are derived in exploratory factor analysis are confirmed through CFA. For CFA, Amos software was used. CFA was conducted on all four extracted constructs from EFA

using maximum likelihood estimation. From 15 items in CFA there are 5 items on brand name, 4 items on brand value 3 items on brand consideration and 3 items on brand acknowledgement.

The table 3 indicate the result of the CFA model showing model fit. CMIN: 4.577, P: .000, CFI :.956, NFI : .945, RMSEA: .060 , TLI: .945 , GFI: .924 and AGFI .924. This shows the suitability of the model for proceeding further.

Table 4 shows convergent and discriminant validity test that was done to see if there exists any relationship between these constructs or not. For convergent validity the value of CR>0.7 is said to be a good fit and AVE> 0.5 is acceptable value (Tiwari et al., 2021). For discriminant, validity if the diagonal values, i.e. the square of AVE, is greater than the vertical value i.e. the correlation values then it is said to have discriminant validity (Tajpour&Hosseini, 2021). Therefore, we can say that there is a relationship between these factors.

Table 3: Summary of model fit indices

Indicator	Required for Good Fit	Required for Acceptable Fit	
CMIN (Chi-Square/df)	$0 \leq \text{Chi-Square/df} \leq 2$	$2 \leq \text{Chi-Square/df} \leq 5$	4.577
P value overall	$0.05 \leq p \leq 1.00$	$0.01 \leq p \leq 0.05$	.000
CFI (Comparative Fit Index)	$0.97 \leq \text{CFI} \leq 1.00$	$0.95 \leq \text{CFI} \leq 0.97$	.956
GFI (Goodness of Fit Index)	$0.95 \leq \text{GFI} \leq 1.00$	$0.90 \leq \text{GFI} \leq 0.95$	.947
AGFI (Adjusted Goodness of Fit Index)	$0.90 \leq \text{AGFI} \leq 1.00$	$0.85 \leq \text{GFI} \leq 0.90$	.924
NFI (Normed Fit Index)	$0.95 \leq \text{NFI} \leq 1.00$	$0.90 \leq \text{NFI} \leq 0.95$	.945
RMSEA	< 0.05	<.08	.060
TLI	>.9	<5.0	.945

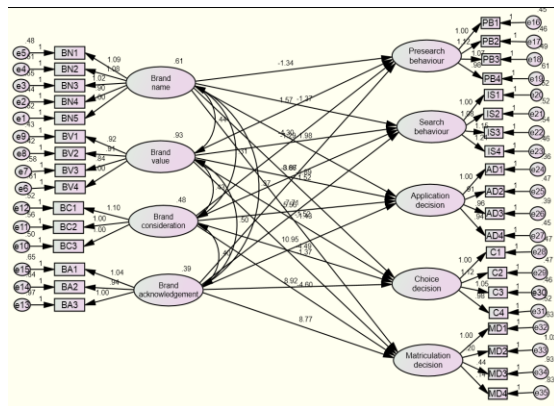
Source: Authors

Table 4: Convergent and discriminant validity

	CR	AVE	MSV	MAX R(H)	Brand consideration	Brand name	Brand value	Brand acknowledgement
Brand consideration	0.766	0.522	0.424	0.768	0.722			
Brand name	0.864	0.559	0.356	0.865	0.559	0.748		
Brand value	0.862	0.609	0.425	0.865	0.633	0.581	0.781	
Brand acknowledgement	0.764	0.521	0.425	0.773	0.651	0.597	0.652	0.722

Source: Authors

Figure 4: Final structure model



Source: Authors

Figure 3 shows the relationship between factors of brand awareness and enrolment decision-making process. The Structural Equation Model was made to test and support the hypothesis using Amos software (Lal & Sharma, 2021). Multiple regression equation was tested using Structural Equation Model. Relationship between factors of brand awareness and students enrollment decision-making process is also shown through it. Sample size was 1000.

Table 5 shows that the model is acceptable. CMIN (Chi-Square/df): 5.596, P : .000, CFI: .876, NFI: .854 and RMSEA: .864 shows that our model is acceptable.

Table 5: Summary of model fit indices

Indicator	Required for Good Fit	Required for Acceptable Fit	
CMIN (Chi-Square/df)	$0 \leq \text{Chi-Square/df} \leq 2$	$2 \leq \text{Chi-Square/df} \leq 5$	5.596
P value overall	$0.05 \leq p \leq 1.00$	$0.01 \leq p \leq 0.05$	.000
CFI (Comparative Fit Index)	$0.97 \leq \text{CFI} \leq 1.00$	$0.95 \leq \text{CFI} \leq 0.97$	.876
GFI (Goodness of Fit Index)	$0.95 \leq \text{GFI} \leq 1.00$	$0.90 \leq \text{GFI} \leq 0.95$	.840
AGFI (Adjusted Goodness of Fit Index)	$0.90 \leq \text{AGFI} \leq 1.00$	$0.85 \leq \text{GFI} \leq 0.90$	.813
NFI (Normed Fit Index)	$0.95 \leq \text{NFI} \leq 1.00$	$0.90 \leq \text{NFI} \leq 0.95$	.854
RMSEA	< 0.05	$< .08$	.068
TLI	$> .9$	< 5.0	.864

Source: Authors

Table 6: Relationship between factors of brand awareness and students enrollment decision

			Estimate	S.E.	C.R.	P	Label
presearch_behaviour	<---	brand_name	-1.340	.573	-2.341	.019	par_33
search_behaviour	<---	brand_name	-1.369	.512	-2.672	.008	par_34
application_decision	<---	brand_name	-1.982	.727	-2.727	.006	par_35
choice_decision	<---	brand_name	-1.518	.591	-2.567	.010	par_36
matriculation_decision	<---	brand_name	-1.426	.588	-2.423	.015	par_37
presearch_behaviour	<---	brand_value	-1.575	.544	-2.895	.004	par_38
search_behaviour	<---	brand_value	-1.295	.486	-2.665	.008	par_39
application_decision	<---	brand_value	-1.893	.689	-2.749	.006	par_40
choice_decision	<---	brand_value	-1.525	.561	-2.718	.007	par_41
matriculation_decision	<---	brand_value	-1.374	.558	-2.464	.014	par_42
presearch_behaviour	<---	brand_consideration	-4.298	1.418	-3.031	.002	par_43
search_behaviour	<---	brand_consideration	-3.867	1.268	-3.049	.002	par_44
application_decision	<---	brand_consideration	-5.560	1.797	-3.094	.002	par_45
choice_decision	<---	brand_consideration	-4.494	1.464	-3.069	.002	par_46
matriculation_decision	<---	brand_consideration	-4.600	1.457	-3.157	.002	par_47
presearch_behaviour	<---	brand_acknowledgement	8.660	2.525	3.430	***	par_48
search_behaviour	<---	brand_acknowledgement	7.715	2.259	3.415	***	par_49
application_decision	<---	brand_acknowledgement	10.950	3.197	3.425	***	par_50
choice_decision	<---	brand_acknowledgement	8.920	2.606	3.422	***	par_51
matriculation_decision	<---	brand_acknowledgement	8.771	2.590	3.387	***	par_52

Source: Authors

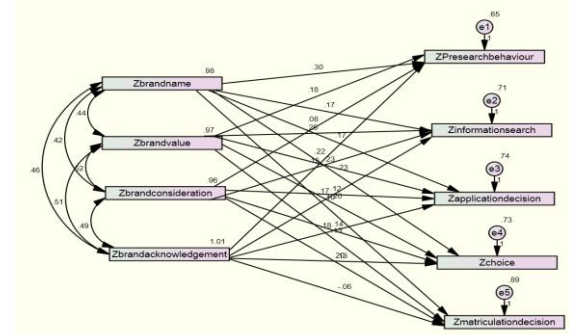
The table 6 shows the relationship between factors of brand awareness and students enrollment decision-making process. The impact of brand name on pre-search behaviour, search behaviour, application decision, choice decision and matriculation decision is ($\beta = -1.340$ & $p = .019$), ($\beta = -1.369$ & $p = .008$), ($\beta = -1.982$ & $p = .006$), ($\beta = -1.518$ & $p = .010$), and ($\beta = -1.426$ & $p = .015$) respectively. The impact of brand value on pre-search behaviour, search behaviour, application decision, choice decision and matriculation decision is ($\beta = -1.575$ & $p = .004$), ($\beta = -1.295$ & $p = .008$), ($\beta = -1.893$ & $p = .006$), ($\beta = -1.525$ & $p = .007$) and ($\beta = -1.374$ & $p = .014$) respectively. The impact of brand consideration on pre-search behaviour, search behaviour, application decision, choice decision and matriculation decision is ($\beta = -4.298$ & $p = .002$), ($\beta = -3.867$ & $p = .002$), ($\beta = -5.560$ & $p = .002$), ($\beta = -4.494$ & $p = .002$) and ($\beta = -4.600$ & $p = .002$) respectively. The impact of brand acknowledgement on pre-search behaviour, search behaviour, application decision, choice decision and matriculation decision is ($\beta = 8.660$ & $p = .000$), ($\beta = 7.715$ & $p = 0.000$), ($\beta = 10.950$ & $p = 0.000$), ($\beta = 8.920$ & $p = 0.000$) and ($\beta = 8.771$ & $p = 0.000$). The value of P in case of all the variables is less than 0.05 showing a significant relationship.

3.3 Student's Gender Moderation Analysis

Moderation has been done to see if of factors of brand awareness on each stage of the students' enrolment decision process is

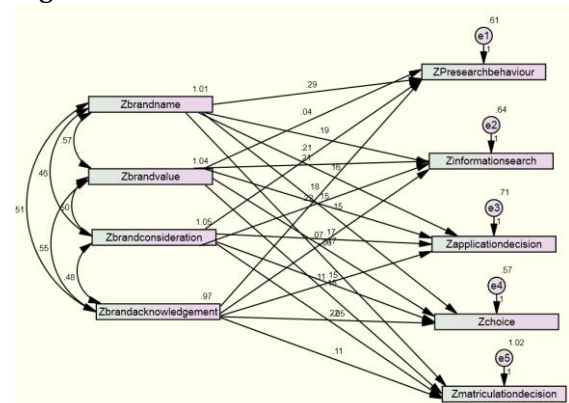
moderated by student's gender or not. Moderation is done with the help of Amos and statistical tool. Figure 3 shows the male moderation and figure 4, female.

Figure 5: Male moderation



Source: Authors

Figure 6: Female moderation



Source: Authors

Table 7: Relationship between factors of brand awareness and students enrollment decision keeping student gender as moderator

			Male		Female		z-score
			Estimate	P	Estimate	P	
ZPresearchbehaviour	<---	Zbrandname	0.296	0.000	0.288	0.000	-0.122
Zinformationsearch	<---	Zbrandname	0.170	0.000	0.186	0.000	0.250
Zapplicationdecision	<---	Zbrandname	0.169	0.000	0.158	0.003	-0.157
Zchoice	<---	Zbrandname	0.231	0.000	0.152	0.001	-1.235
Zmatriculationdecision	<---	Zbrandname	0.095	0.043	-0.056	0.044	-1.903*
ZPresearchbehaviour	<---	Zbrandvalue	0.185	0.000	0.042	0.008	-2.144**
Zinformationsearch	<---	Zbrandvalue	0.249	0.000	0.206	0.000	-0.617
Zapplicationdecision	<---	Zbrandvalue	0.231	0.000	0.146	0.007	-1.197
Zchoice	<---	Zbrandvalue	0.196	0.000	0.167	0.000	-0.435
Zmatriculationdecision	<---	Zbrandvalue	0.128	0.012	0.184	0.004	0.689
ZPresearchbehaviour	<---	Zbrandconsideration	0.083	0.055	0.207	0.000	1.978**
Zinformationsearch	<---	Zbrandconsideration	0.152	0.000	0.215	0.000	0.967
Zapplicationdecision	<---	Zbrandconsideration	0.122	0.008	0.172	0.000	0.755
Zchoice	<---	Zbrandconsideration	0.143	0.002	0.151	0.000	0.132
Zmatriculationdecision	<---	Zbrandconsideration	0.129	0.010	-0.048	0.041	-2.291**
ZPresearchbehaviour	<---	Zbrandacknowledgement	0.222	0.000	0.182	0.000	-0.613

Zinformationsearch	<---	Zbrandacknowledgement	0.168	0.000	0.072	0.040	-1.408
Zapplicationdecision	<---	Zbrandacknowledgement	0.181	0.000	0.114	0.035	-0.944
Zchoice	<---	Zbrandacknowledgement	0.195	0.000	0.219	0.000	0.362
Zmatriculationdecision	<---	Zbrandacknowledgement	-0.063	0.021	0.106	0.045	2.069**

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Table 7 shows the relationship between factors of brand awareness and students enrollment decision-making process was tested by taking students gender as moderator. The significant value of brand name, brand value, brand consideration and brand acknowledgement on pre-search behaviour in case of male is (p = 0.000), (p = 0.000), (p = 0.055), (p = 0.000) and female is (p = 0.000), (p = 0.000), (p = 0.000), (p = 0.000) respectively. Hence, our null hypothesis is accepted. *H0₁*:- There is an impact of brand awareness factors on the pre search behavior of enrolment decision moderated by student's gender.

The significant value of brand name, brand value, brand consideration and brand acknowledgement on search behaviour in case of male is (p = 0.000), (p = 0.000), (p = 0.000), (p = 0.000) and female is (p = 0.000), (p = 0.008), (p = 0.000), (p = 0.040) respectively. Hence, our null hypothesis is accepted.

H0₂:- There is an impact of brand awareness factors on the search behavior of enrolment decision moderated by student's gender

The significant value of brand name, brand value, brand consideration and brand acknowledgement on application decision in case of male is (p = 0.000), (p = 0.000), (p = 0.008), (p = 0.000) and female is (p = 0.003), (p = 0.000), (p = 0.00), (p = 0.035) respectively., our null hypothesis is *H0₃* is accepted.

H0₃:- There is an impact of brand awareness factors on the application decision of enrolment moderated by student's gender

The significant value of brand name, brand value, brand consideration and brand acknowledgement on choice decision in case of male is (p = 0.000), (p = 0.000), (p = 0.002), (p = 0.000) and female is (p = 0.001), (p = 0.007), (p = 0.000), (p = 0.000) respectively. Hence, our null hypothesis is accepted.

H0₄:- There is an impact of brand awareness factors on the choice decision of enrolment moderated by student's gender

The significant value of brand name, brand value, brand consideration and brand acknowledgement on matriculation decision in case of male is (p = 0.043), (p = 0.043), (p = 0.010), (p = 0.021) and female (p = 0.044), (p = 0.004), (p = 0.004), (p = 0.045) respectively. Hence, our null hypothesis is accepted.

H0₅:- There is an impact of brand awareness factors on the student's matriculation decision moderated by student's gender

The significance value is less than 0.5 for all the factors. Hence, our null hypothesis: *H0₁*, *H0₂*, *H0₃*, *H0₄*, *H0₅* are accepted.

4. CONCLUSION AND DISCUSSION

The study concludes that there is a significant relationship that exists between factors of brand awareness and students enrollment decision process. Also, while putting student's gender as moderator the study shows that there is a significant impact of factors of brand awareness on student's enrolment process for higher education institutions. Sample was collected from 1000 students. The study has identified five factors of brand awareness by using SPSS tools and checked the factors by means of Confirmatory Factor Analysis model developed with the help of AMOS. As shown in table 4, the model was fit to proceed further. Validity by means statistical tools was tested and was fit to go with as shown in the table 5. Structural equation modeling analysis was used to show the impact of factors developed on student's decision-making process. A clear impact of brand awareness factors can be seen in the final structure model, on each stage of the enrolment decision process of the students. When tested if it was moderated by student's gender, then we can see the impact on each stage again.

There is limited literature available that shows the influence of brand awareness on higher education institutions enrollment decision making. However, there is a relationship between brand awareness and students enrollment decision making process, is supported by the earlier studies. Zang (2020),

states that in the decision-making process of consumers, brand awareness assumes an imperative role. Brand awareness influence the decision making process of a student while deciding for a university and whether to continue or not in the same university for further studies. Brand awareness creates an image of the university, which may attract students. So, if a college or a university have high brand awareness they will high brand image and will attract more students (Mulyono, H. 2016). Gibbs & Dean, (2015) awareness created by higher education institutions will help the students in their decision making process. Higher education enrollment decision is a very big decision for students. There is a strong tendency of a consumer to purchase the brand which they can recognize. In case of higher education institution brand awareness is important as it influences the decision making process if students (Brewer & Zhao, 2010). Bunzel (2007) states that in the present scenario there is a high competition in higher education sector just like any other businesses. Therefore, one cannot ignore building brand and creating brand awareness of their institution.

The present study had used student's gender to see the moderating effect on relationship between brand awareness and enrollment decision making process. Amos has been used to do moderation analysis, by the result of which the study could see that, there is a moderating effect of student's gender. Thus, result of this study deviates from the previous study done by Vijayalakshmi & Barani (2015) as in their study they stated that there is no relationship between gender and brand awareness when it comes to higher education institutions. The previous study had taken only engineer students to see this relationship whereas, the present study is based on data collected from schools and management colleges. Through which the study concludes differently and shows the there is a relationship between gender and brand awareness when it comes to higher education institutions.

5. MANAGERIAL IMPLICATIONS

This study will be very useful for administration department especially for those who are involved in institution marketing program and admission department. The study will give insight knowledge of the

brand awareness and its importance in higher education institution. It will help the institutions to understand the factors of brand awareness and thus, utilize it to create new strategies to attract students. Thus, giving new ideas to face the competition and increasing the chance to increase the enrollment number. Understanding brand awareness will give new ways and ideas for marketing strategies. Clear strategies can be formed for each stage of the enrolment decision process of the students, by the institutions. Focusing on each of the stages of the enrolment process it is possible for the institution to come out with more strategies to attract the students, fit for their institution.

6. LIMITATIONS AND SCOPE FOR FURTHER STUDIES

The study is subjected to few limitations. The study does not cover the fees of higher education institutions that may have an impact on brand awareness and students decision. The study does not see the impact of brand awareness on male and female decision-making process separately on each of the step of enrollment decision making process. Therefore, further studies can be done on these areas. The study also does not show the differences of the impact of factors of brand awareness on each stage of enrolment process. The models in this study can be considered and the study can be expanded to other industries.

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EXAMINING THE ROLE OF ASPIRATION IN IMPROVING PURCHASE INTENTION OF SCHOOL BOOKS.

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ABSTRACT

The objective of this study is to explore the consumer behaviour specially in context of what role does aspiration play in purchase of school books. Detailed research carried out implementing mixed method approach and survey to examine the intricate relationships among constructs. While during these COVID times, certain governments are encouraging use of technology, other are concerned about the potential threats it poses to the health of the students. In this study, we scan through the available published papers to understand as to what pushes the sale of an eBooks viz a viz print books. And then we tend to understand as to what will be those factors that will impact the purchase intention of the consumer for school books. We further study to validate our survey findings. The constructs identified from the study may provide significant insights to marketers to define and operationalise different strategies specially for the sales of school books.

Keywords: School books, Means end chain theory, Purchase intention, Social Norms, Aspiration

INTRODUCTION

Books became a part of acknowledged academic discipline in the 20th Century. William Ivins Jr.'s *Prints and Visual Communication* (1953) fostered the idea of books in its present form. In the book, *The Coming of the Book: The Impact of printing*, a lot of insights have been provided into the elements of a book. Robert Darnton, a stalwart in the field of publishing and book printing also spoke largely about the books and how piracy and other practices impacts the book and its readers (Darnton, 2021). Before the printing press actually came into being in their form as what we see today, each article written in text was a unique handcrafted masterpiece in itself. Books slowly but gradually became such an indispensable part of our history that today History of Books in itself is a well acknowledged academic discipline in its own. If we look at the chronology of books and draw it to what we read today, one will be astonished to know that books started off with a hand written document/article i.e., development of writing led to what we read as on date and then progressed through further times which included invention of paper in the form that we see today and of course, printing which still keeps on evolving even today. Therefore,

before we go into more detail on to our work it is imperative to first understand what a book is?

(Kovač et al.) in 2019 did a research to find out what can be called a book. To give a proper definition to the word book and they pointed out the following. For a text to be considered a book it should fulfil following 4 criteria:

1. It should have a minimum length.
2. There should be proper emphasis on textual content in the object to be considered a book.
3. There has to be a well-defined boundary to the form of the object.
4. There has to be the presence of a clear-cut book information architecture to call it a book.

Only if the object fulfils the 4 criteria listed on the top will it be considered as a book (Kovač et al., 2019). The authors of the paper also found out that print books are the purest forms of books in existence at present.

Books while having been a part of the human life since time immemorial it has been used for varied purposes. For example: Academic, Religious, Curricular etc. Books have been

used in schools, at home, in libraries and in religious places too. Here, we will be referring to books more in the context of being used for school's curricular purposes be it at home as a text for reference or at school forming the core part of the curriculum.

Going to school has been widely accepted as the best public policy tool that allows to raise skill of the next generation of economic contributors. While many of us truly think that school time is fun but the reality is school time can also help students develop social skills and awareness. To be precise, school time helps a child improves his ability which in turn will add on to the economic performance of the country in future (*The Impact of COVID-19 on Education | VOX, CEPR Policy Portal*, 2021).

While the whole world had been facing the pandemic, UNESCO in its press release in last week of March 2020 highlighted that over 1.5 billion learners were impacted due to COVID - 19 pandemic across 165 countries. (UNESCO, 2020). As per UNESCO, 87% of world population was affected by school closures because of pandemic. With such a magnitude of impact on individuals' learning, it is much obvious for the governments across the world to look for alternatives that can ensure a learning continuum. Specially for a country like India which is a developing economy with the massive spread of population across Urban, semi urban and rural set ups, lack of infrastructure would have proven itself to be a big hurdle. Another important aspect to be considered globally was the role of families in a child's learning. Undoubtedly, families were always playing a critical role in a child's education and were providing major inputs in their learning (Björklund & Salvanes, 2011). It is indeed a fact as well that the concept of home schooling gained traction during pandemic and many did consider it as effective as normal schooling. But, a research conducted by Thorell et al. in 2021 to study the impact of home schooling during the pandemic across parents of 5 European countries revealed that parents found home schooling was having negative impact on parents and children as well. Many also found home schooling to be of poor quality with limited or no support from schools. Parents of children who were doing home schooling also

reported high level of stress, worry and social isolation (Thorell et al., 2021).

Oxford University Press, the department of University of Oxford conducted a study and published its finding in a report named "Addressing the Deepening Digital Divide" in the year 2021. The study was conducted across the globe including countries like UK, Italy, Spain, Pakistan and of course, India. The findings that researchers found were staggering. Researchers found out the problem was not only about digital accessibility but it was equally about digital competency too. (*Oxford University Press - Lack of Skills Holds Back Digital Learning*, 2021)

Following were highlighted in the report specially in context of India: though the researcher admitted that India has a growing access to broadband services and those are inexpensive to various other countries around the globe. At the same time, they also highlighted that one of the problems is non inclusiveness as far as availability of the quality content is concerned to the learners. They also found out that most of the quality digital learning platforms are expensive and out of reach of those belonging to the disadvantaged group. Most of the learners will dependent upon a single mobile device which was then shared by multiple learners further deepening the digital divide of those living in metros, then to small urban or rural areas.

UNESCO lately built an education coalition that allows countries to work on various strategies to ensure continuation of learning through "no tech" approaches. (UNESCO, 2020). No tech approach once again means that this population which is a large share of the current learner base depends on print materials to ensure that learning continues. India has a massive learner base of approximately 260 million school going children studying in over 1.5 million schools (Wickham, 2019). This does not include the pre-primary domain which has so far being considered as a zone of informal education until the introduction of New Education Policy 2020 which now talks about pre-primary to be a part of formal education too (Khaitan, 2017; Wickham, 2019).

Most of the school education domain i.e., Pre-

primary, primary and secondary education are still largely done in an offline mode i.e., either total print consumption or blended products i.e., one that use both print and digital (Khaitan, 2017; Wickham, 2019).

The report also clearly demarcates the spread of population in 20 largest states of India across urban and rural set up. Since most of our population still lives in a rural set up, it became important to understand that they still depend on education delivery in a no tech/limited tech approach. To justify this statement, in “The 30% Dilemma: Is Indian Publishing Really Growing That fast?” on the Medium, Mulmi (2017) quotes Nielsen’s report and states that 70% of book market in India is of the education book sector. Author further indicates that out of a total 9000 publishers active in India, 8100 approx. publish books for educational institutes i.e. a whopping 90% (Medium, 2017). As per Nielsen (2016) in 2013-14 Indian school books publishing market was estimated to be around USD 2.45 Bn.

A few previous research studies have tried to understand factors influencing purchase of books (Leemans and Stokmans, 1992; Zhang et al., 2017; Rao et al., 2018). The study of Leemans and Stokmans, 1992 confirmed that significance of physical attributes in influencing purchase decision regarding book. Woody et al., (2010) emphasized students are aware of additional resources like an e-book but still prefer print book due to ease in reading. Another study by Zhang et al., (2017) and Lim et al., (2021) focussed on hedonic and utilitarian aspect of books but stressed upon price as a major factor influencing purchase of books. It has been found that most of the research happened around eBook, its acceptance and its usage in comparison to print book. But no research has been carried out in India to understand as to what behavioral aspect and other parameters lead to purchase of a print book. In a country like India, which is a developing economy and majority of the population lives in rural areas, it is important for us to focus on print education solutions and to understand what drives our consumers purchase decisions.

Previous research studies identified that purchase of books is considered as a non-programmed purchase decision, which means

that it is not an event that happens after a particular/specific period of time (Madan et al., 2022; Höppner et al., 2009; Li, 2016; Zhang et al., 2017a). But in case of schoolbooks purchase curriculum books are a programmed behavior that happens before the start of each academic year and are followed by some non-programmed purchases of reference books. What drives such decisions at different time spans is what needs to be understood. Many studies identified that types of books, attractiveness of the cover page, reputation of the author and publisher also impacts the purchase decision of the consumer (d’Astous et al., 2006; Hsiao & Chen, 2017; Martin, 2007). But no study specifically talks about as to how true it is in context of the K-12 education domain i.e., in context with the schoolbooks. This is certainly one area of further research. Research papers have spoken about bundling of services with product to make it more attractive but no paper talks about the impact of discounts on the purchase intention of a consumer specifically in context of K-12 domain. This is worth considering while carrying out further studies. Most of the studies that have been reviewed did not have enough sample size, so it is important to study a reasonable sample size specially in country like India to come on to a conclusive inference in the end of any study carried out in this context.

Problem Statement

Based on the research gaps identified, in the current study the focus is on identifying the factors that impact the Indian consumers purchase decision for printed schoolbooks whether it is basis a prescription given by a school or a book taken up by the consumer as a reference text. While there is of course a huge market of publishing, with 8100 publishers printing specifically for education domain, it becomes imperative for us to answer the following questions:

1. What drives the aspiration of the consumer for purchase of a school book?
2. What is the propensity that aspiration leads to purchase intention of a school book?

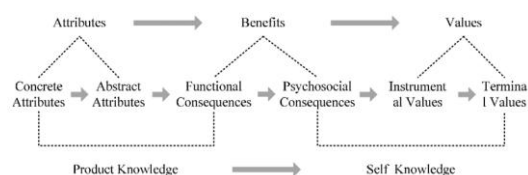
In this post COVID era, there has been a debate going on whether the introduction of technology in the classroom is a good decision or perhaps a decision taken in haste. While

some are happy with the shift, others are concerned about the threats it poses to the health of the student. This encouraged to undertake a study where the factors which persuade purchase of books could be studied and analyzed in a single comprehensive model. This in turn will not only help us to know the relative significance of each factor in presence of other as well as provide significant inputs to the publishers so that they can focus on significant ones. The objective of this study is therefore, to explore the intellectual development of consumer behavior in purchase of books through previous published research studies, conducting a descriptive research based on mixed method approach and while doing so to also develop a model to understand the sales of printed schoolbooks.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

To conceptualize the constructs, the research validates Means-End-Chain Theory (given by Reynold and Gutman) as a theoretical underpinning. Means-End Chain Theory –A means-end chain (MEC) has been defined as a hierarchy of goals that represents potential identities of the actions necessary for the person to reach his or her goal. In MEC Theory, two important aspects of persuasion are brought together in focus i.e.

1. Understanding the consumers' personal values/aspiration.
2. Understanding and identifying the emotional links that ties these values to a particular decision.



Means end research theory (Zeithaml, 1988; Gutman, 1997a, 1997b) helps to understand what series of instances goes on in a consumer's mind while making certain decisions so as to understand consumer behaviour better. It ensures that consumers actual needs are identified through various quantitative and qualitative approaches. As per this theory, there is a specific need for the consumer to reach the end, hence, they act with a definitive purpose in mind. (Hofstede et al., 1998; Kaciak & Cullen, 2006; Zhang et

al., 2017b). The theory in the past were used by authors to study the impact of aspiration and benefits leading to purchase intentions (Chiu, 2005; Christianson & Aucoin, 2005; Wang et al., 2019; Zhang et al., 2017a).

Customer preference of course is one of the factors which will impact the customers' purchase decision in the end((Paul et al., 2021). Previous studies opined that cover page, price do have an impact on the customers decision to purchase books(Chevalier & Mayzlin, 2006; Schroeder & Wright, 2011; Rønning et al., 2012; Alam, 2014; Rao et al., 2016; Hsu et al., 2017; Leitão et al., 2018; Lia, 2019; Otten et al., 2019). Customers' general preference between a textbook and an e-book based on age groups has also been stressed by previous scholarly works(Christianson & Aucoin, 2005; Woody et al., 2010; Lynch, 2012; Porion et al., 2016; Evans et al., 2017; Hsu et al., 2017; Strouse & Ganea, 2017; Lau et al., 2018; Rao et al., 2018; Leonard & Martins et al., 2018; Snyman, 2019; ; Okocha, 2019) . Researchers further noticed the impact of word of mouth while making decision for reading materials while others scholarly works reviewed the impact of perceived inconveniences while using e-books, impact of satisfaction and usability issues with eBooks and impact of lower cost on decision of a customer between a print book and an eBook. (Chevalier & Mayzlin, 2006; Das et al., 2020; Henke, 2001; Leemans & Stokmans, 1992; Leonard & Snyman, 2019; Pierard et al., 2020; K. Nageswara Rao et al., 2016; Richardson & Mahmood, 2012; Rojeski, 2012; Rønning et al., 2012; Ross et al., 2017; Tosun, 2014; Woody et al., 2010; Zhang et al., 2017a). A very important market research technique i.e., means end research theory (Zeithaml, 1988; Gutman, 1997a, 1997b) to understand what series of instances goes on in a consumer mind while making certain decisions so as to understand consumer behaviour better. It ensures that consumers actual needs are identified through various quantitative and qualitative approaches. As per this theory, there is a specific need for the consumer to reach the end, hence, they act with a definitive purpose in mind. (Pieters et al., 1995; Gutman, 1997a, 1997b; Hofstede et al., 1998; Zeithaml, 1988; Kaciak & Cullen, 2006; Zhang et al., 2017b).

During literature review we came across some of the papers which helped us identify and

shortlist the factors basis which we were able to carry out the research while others helped us identify the theories which will pave the way for us to explore further in our area of research. Following are few important research studies which were conducted to comprehend the factors leading to purchase of books:

Leemans and Stokmans (1992) prepared a descriptive model to identify and explain as to what process buyers follow while making decisions to buy a particular book. They used sequential Hierarchical model of Consumer Decision making to study the consumers buying behaviour. They also considered such buying behaviour as a non-routine buying behaviour. They used the attributes of books like author, genre, themes etc as important factors impacting the purchase decisions. Very important to note was that they also considered referral to play a critical role in choosing a book which is worth considering in further studies too.

Arya et. al. (2018, 2019, 2021) also studied the relevance of SMS campaign in impacting the consumers purchase intention and found out that SMS advertising had significant impact on purchase intention of the consumer. There is seemingly a huge scope in the pandemic era to identify its importance for school books market as well.

Arya et al. (2019) also studied if digital foot print can be considered as a digital asset. This aspect holds a lot of value and relevance specially in the post pandemic domain. In the study, they found out that Digital foot prints across platform has a strong influencing impact and can definitely be considered as an asset.

Woody et al. (2010) conducted a study to find out whether the students in higher education institutions prefer to read through a print book or an e-book. Through the study they tried to understand the preference in the backdrop of availability of technology, know how of technology and students exposure to ebooks in the past.

Zhang et al. (2017) carried out another study specifically in China for Chinese readers to understand as to what drives their purchase decisions in this mobile era for eBooks. In this study we found out an extensive theoretical

background which was implemented by the researchers specifically the Means End Chain Theory and Elaboration Likelihood Model. The researchers studied how hedonic and utilitarian value that they derive from books leads to a purchase decision. It was also noted that due to lower price of an eBook the readers perceived lower risk in purchasing an eBook over a print book. They also underlined that uniqueness and convenience are two important drivers of this purchase. This study tries to cover most of the important aspects that can impact a person's purchase decision. Hence, we found it useful to keep it as a base and try to improvise its use on print books in context of Indian readers.

Nilgun (2014) determined the preferences of student-teachers on reading printed books or e-books and the reasons for these preferences. The results of the study suggested that cost as well as age has a significant impact on purchase of books.

Jie (2016) carried out a study wherein he tried to uncover if at all there is any cost differential when a consumer opts a print book over an eBook specially in context of academic titles. Jie concluded with data that for academic titles in particular the print books are most cost effective for consumer than eBooks.

Strouse & Ganea (2017) confirmed that parents give preference to reading of print book over e-book. The study confirmed that this preference of print books is related to perceived enjoyment, involvement of the child or parent-child interactions during reading. Children of ages 1-4 preferred to go for traditional books and enjoy parent-child interactions during reading of print of books.

Hung et al., (2018) studied the efficacy of the learning resources provided with print books. Results of the study confirmed that print books are found to be less effective for higher order learning needs but there is no proof for this holding true for school education.

Luis et al (2018) investigated the factors influencing the buyer while purchasing a frictional book. The study also tried to comprehend whether the decision of purchase is impulsive or not. The study highlighted that woman read more books than men and are more impulsive while purchasing a book.

Women buy books as a gift but are concerned but the fact that author and fame of book is important when purchased as a gift.

Rao et al., (2018) compared the price of print and e-book titles of the same scholarly titles from a university library. Also, this research study tried to find out whether the subject effects the preference for print or e-book. The results of the study provided significant insights into the consumer behaviour related with purchase of books. The results of the study confirmed that price of e-books are higher than their print counter parts. The study was conducted at Jawaharlal Nehru university and thereby negated the school children.

Gopal et al., (2020) and Gupta et al., (2021) investigated as to how the certain attributes impact the perception of the consumer about the attractiveness of the product and also their intention to purchase it. He considered the role of mood, whether the product is carrying a partitioned price or combined and role of persuasion skills.

Wimberley et al., (2020) empirically analysed the impact of library support in lieu of the course material cost and if it impacts the pass rate of the students in any ways which will show influence of library collection. It also validated the impact of Open education resources on buying behaviour.

Hypotheses Development

In school education domain, students are usually using books of the following types i.e., curriculum textbooks and books used as reference texts. While curriculum books are largely prescribed by the schools, we would need a framework that shall help us understand as to how that purchases decision is made by school administration. On the other hand, for reference books the decision maker is mostly the student/parent, it will be interesting to note as to how those purchase decisions are made. To understand these two processes discreetly and in detail, we are proposing the following models for the study:

During the literature review we came across papers where in the researcher identified the physical attributes like covers, page extent, illustrations etc played an important role while selection of a print and e-

books.(d'Astous et al., 2006; Evans et al., 2017; Leitão et al., 2018a; Zhang et al., 2017a; Jain et al., 2021; Jhamb et al., 2021). It is then important to understand do they play an equally important role while choosing the schoolbooks as well. Hence,

H1: Physical attributes is a multi-dimensional construct significantly predicted by cover page, illustration and page extent.

H1a: Physical attributes have a positive impact on aspirations towards purchase of a schoolbook.

Further, another important factor that influences consumer decisions is perceived enjoyment(Hsiao & Chen, 2017; Hsu et al., 2017; Zeithaml, 1988; Zhang et al., 2017a; Arya et al., 2019). It is hence important to note and validate whether they play an equally important role when it comes to purchase of schoolbooks as well:

H2: Perceived enjoyment has a positive impact on aspirations that may lead to purchase of schoolbooks.

Price i.e., the amount that the customer has to pay for buying a product plays an important role for any purchase, the same impact was recorded by many researchers when they were comparing the decisions made by consumer for whether they must by an eBook or print book. It will be important to note whether the cost have the same impact when the customer has to choose for printed school books.(Embong et al., 2012; Herrmann et al., 1997; Li, 2016; K. N. Rao et al., 2018; K. Nageswara Rao et al., 2016; Wimberley et al., 2020)

H3: Price has a positive impact on aspirations that may lead to purchase of schoolbooks.

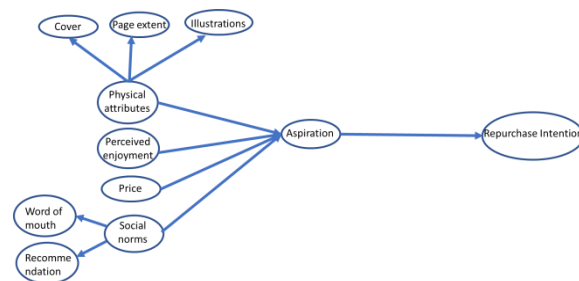
Social norms refer to the societal outlook towards a particular product or a trend. It is governed by references and word of mouth. In many research, the researchers found the social norms also impact a consumers behaviour, the same was specially found true when researchers were focusing on adoption of eBook for reading(Hsu et al., 2017; Martins et al., 2018; Okocha, 2019; Sunil, 2015; Wang et al., 2019). This also let to panic buying post pandemic (Islam et al., 2020). Will it hold true for printed schoolbooks? It is worth exploring:

H4: Social norms is a multi-dimensional construct significantly predicted by Word-of-mouth and recommendation.

H4a: Social Norms has a positive impact on aspirations that may lead to purchase of schoolbooks.

Researcher would thus want to study, whether Aspiration, which has been identified as endogenous variable, have an impact on the purchase intention of the end consumer or not. H5: Aspiration has significant positive impact on purchase intention.

On the basis of the literature review following model is being proposed:



RESEARCH METHODOLOGY

Survey Instrument

The target population for this study were parents of the school going children for classes 1-12. The respondents were spread across the subcontinent of India. Demographic study is also attached to give more information on the respondents. The constructs identified were adapted from previous studies by Woody et al. (2010), Zhang et al. (2017), Hsu et al. (2017), Rao et al. (2016) and Leitao et al. (2018). These items were further modified to fit the context of print books as that is critical for the study carried out. The item 'cover' was adopted from previous study of Leitao et al. (2018) and Astous et al. (2006) among others. 'Illustrations' as an item was adopted from Evans et al. (2017). 'Page extent' too was adopted from a previous study done by Zhang et al. (2017). As a construct 'perceived enjoyment' were used in various previous studies specially conducted on eBooks and higher ed books by Hsu et al. (2017) and Smith et al. (2019). The same was adopted to be used in context of school books too. Tosun (2014) and Martins et al. (2019) studied the impact of social norms on adoption for e books. The

same were adopted to be studied in context of printed school books too. Rao et al. (2016), Zhang et al. (2017) and Martins et al. (2018) studied about the pricing and its impact on adoption of print book viz a viz e book. It was then considered to be adopted to study the impact of price on the adoption of school books. Rao et al. (2016) and Smith et al. (2019) also studied about the motivation that one reader has while adoption of eBooks/print books. While aspiration came as a major motivation it was important to study the item in context of school books too.

Table for scale item used is given below:

COV1	I will occasionally judge the book by its cover.
COV2	Good printing quality drive me to buy the book.
COV3	I prefer a hard cover binded over a paperback book.
COV4	It is the cover that attracts me to the book first.
ILL1	Good appealing illustrations drive me to buy the book.
ILL2	Pictures of the book influence my decision.
ILL3	A book with no illustrations/ poor illustrations does not appeal to me.
PAG1	I will prefer a book with more pages over a book with less pages.
PAG2	I prefer a book with in-depth coverage of course material
PAG3	Gripping description with proper explanation of concepts encourage me to purchase book
ENJ1	I am willing to spend more for an engaging book
ENJ2	I enjoy the book with more illustrations/ appealing illustrations.
ENJ3	If I/my kids like the name of a book, I will buy it.
ENJ7	I tend to buy more books for the subject my child likes.
ENJ8	I tend to buy books which have more fun activity, so that reader enjoys
ENJ9	Price is secondary, if I am sure to enjoy reading a particular book.
ENJ10	Book of my kids' favourite subject is always interesting for him/her
WOM1	I do market research before buying an educational product.
WOM2	I ask my friends/relatives before buying an educational product.
WOM3	I read product reviews before deciding to buy
REC1	I am more likely to buy a book recommended to me by someone known
REC2	While buying reference books, I make it a point to look at reviews/feedbacks.
REC3	I do form my opinion basis the recommendations/feedback I get for a book.
PRI1	I am price conscious when I chose the study materials I buy.
PRI2	I check for discounts before I buy an educational product.
PRI3	I will definitely check the price of the book

	before I buy it.
ASP1	I/My kids aspire to read books with good cover and illustrations.
ASP2	I/My kids aspire to read books that they are sure to enjoy reading.
ASP3	I/My kids aspire to read a book irrespective of the price I need to pay for it.
REP1	I will purchase a book only if I am sure to enjoy reading it.
REP2	If I am convinced with the cover and illustrations of the book, I will purchase it.
REP3	If by reading a book I can be successful in achieving my goals, I will purchase it.

Data Collection Procedures

The link of the preliminary questionnaire was sent to people as google form link were shared with 4 industry experts and 3 academicians in order to evaluate the face validity of the questionnaire. This pilot group suggested several amendments in the structure, language, and appropriateness of scale items (Rashid et al., 2022; Sharma et al 2021, 2022b). The scale was then modified along the suggestions made by them. According to De Leeuw (2012), the use of mixed methods reduces the bias caused by a single method, saves time, and improves the response rate of the survey. Therefore, field and online surveys were both conducted alongside. A total of 1673 questionnaires were submitted to parents of various schools across Indian states. Adequate advance permission was taken from relevant school authorities and the respondents alike. In order to ensure a representative sample for the study, respondents from urban, semi urban and rural areas were included. To increase the participation in the survey, numerous revisits were undertaken in person as well as reminders were sent through emails as well as telephonically. The same survey was available on an online link, and the link was forwarded to several social networking groups on Facebook. Through online and offline modes, 739 responses were received. After a careful examination of the returned surveys, seventy-nine responses were found to be incomplete and were discarded from data analysis, leaving a total of 671 valid responses for subsequent analysis. The respondents were assured of the confidentiality of their answers and the preservation of their anonymity in order to control for the social desirability bias and to motivate them to respond as sincerely as possible (De Leeuw et al., 2008; Sharma et al., 2021, 2022a, 2022b). Late responses represented the viewpoint of non-respondents

and were thus classified as late responses that do also represent the perspective of non-respondents (Armstrong & Overton, 1977). We considered only those responses who responded to the survey within 30 days of sending the survey to them. The cut-off of 30 days was chosen because the response rate dropped remarkably after 4 weeks. This is analogous to the study of Chen et al. (2003) which also considered early respondents who returned the survey within 4 weeks.

Demographic profile and Characteristics of Respondents

Table 1 presents respondents' characteristics and shows a fair inclusion of respondents across gender, with 52.75% males and 47.09% females; about 48.73% of the respondents were between 31-40 years of age. There was an even distribution of respondents across all categories of cities i.e., Urban, Metros, Rural etc. This shall give a good view on consumer behavior across the regions specially for a country like India. A little over half of the respondents submitted that they spend between INR 5000-INR 10000 in a calendar year on books.

Table1: Frequency Distribution for Respondents' Demographics

Demographic Characteristic N=671	Response	Percentage
<i>Gender</i>		
Male	354	52.75
Female	316	47.09
<i>Education Qualification</i>		
Undergraduates	101	15.05
Graduates	374	55.74
Postgraduates	196	29.21
<i>Age</i>		
20-30	113	16.84
31-40	327	48.73
Above 41	231	34.43
<i>Place of Residence</i>		
Metropolitan	202	30.10
Urban	141	21.01
Semi Urban	153	22.80
Rural	175	26.08
<i>Expense on books in an year</i>		
Under 5000	198	29.51
5001-10000	339	50.52
Above 10000	134	19.97

RESULTS

The data analysis process followed a two-step investigative approach. A confirmatory factor analysis (CFA) was carried out on the items to assess the reliability and validity of the proposed measurement model. CFA was performed to assess the reliability and validity of scale items, followed by structural equation modelling (SEM) to test the hypotheses empirically.

CFA, using AMOS 24.0, was conducted on all the constructs. The measurement model was validated based on convergent validity, internal consistency, and discriminant validity (Bagozzi et al., 1991; Hair et al., 2010).

The following table i.e., table 2 displays the results of the measurement model. To evaluate the convergent validity of the exogenous and endogenous constructs, the standardized factor loadings of the constructs and average

variance extracted (AVE) were considered (Hair et al., 2010). The standardized loadings of 0.6 or higher suggesting that the items exhibit validity. AVE value also exceeded 0.5 indicating adequate convergent validity, as suggested by Fornell and Larcker (1981). The internal consistency was addressed by computing composite reliability (CR). The value of CR for all the constructs was 0.7 which is above the threshold value as suggested by Fornell and Larcker (1981).

Discriminant Validity

Table 2 shows that the square roots of AVE are comparatively above than inter-construct correlation. This concludes that the measurement items are more strongly correlated with their own construct than other constructs. Hence, the results designate the adequate reliability and validity of the measurement model, and model is ready for structural testing.

Table 2: Measurement Model

		Std. Estimate	Std. Error	Critical Ratio	AVE	Composite Reliability	Cronbach's Alpha
Cover	COV1	0.751					
	COV2	0.755	0.072	16.525			
	COV3	0.771	0.069	16.797	0.546	0.828	0.805
	COV4	0.675	0.067	15.097			
Illustration	ILL1	0.768					
	ILL2	0.672	0.058	15.646	0.517	0.762	0.765
	ILL3	0.713	0.058	16.464			
Page extent	PAG1	0.617					
	PAG2	0.847	0.075	17.321	0.642	0.84	0.822
	PAG3	0.91	0.081	18.05			
Perceived Enjoyment	ENJ1	0.792					
	ENJ2	0.796	0.043	23.257			
	ENJ3	0.798	0.043	23.311			
	ENJ7	0.649	0.048	17.975	0.621	0.919	0.913
	ENJ8	0.804	0.042	23.549			
	ENJ9	0.793	0.04	23.29			
	ENJ10	0.869	0.039	26.24			
Social Influence	SOC1	0.862					
	SOC2	0.713	0.037	21.437	0.574	0.8	0.81
	SOC3	0.686	0.035	20.559			
Recommendation	REC1	0.807					
	REC2	0.659	0.036	17.956	0.625	0.831	0.826
	REC3	0.889	0.039	26.184			
Aspiration	ASP1	0.913					
	ASP2	0.601	0.04	17.918	0.666	0.853	0.851
	ASP3	0.896	0.03	32.352			
Purchase Intention	REP1	0.846					
	REP2	0.836	0.05	20.496	0.641	0.823	0.84
	REP3	0.716	0.046	18.677			
Price	PRI1	0.798					
	PRI2	0.814	0.043	24.284	0.699	0.874	0.87
	PRI3	0.893	0.042	27.678			

Table 3: Correlations Matrix

	COV	ILL	PAG	ENJ	SOC	REC	PRI	ASP	REP
COV	0.738								
ILL	.558**	0.719							
PAG	.625**	.525**	0.801						
ENJ	.710**	.489**	.701**	0.788					
SOC	.505**	.321**	.554**	.636**	0.754				
REC	.663**	.587**	.685**	.713**	.569**	0.790			
PRI	.660**	.430**	.681**	.601**	.610**	.644**	0.836		
ASP	.587**	.426**	.625**	.708**	.638**	.626**	.696**	0.816	
REP	.046	.037	.095*	.099*	.080	.090*	.095*	.188**	0.800
**. Correlation is significant at the 0.01 level (2-tailed).									
*. Correlation is significant at the 0.05 level (2-tailed). COV: Cover, ILL: Illustration, PAG: Page extent, ENJ: Perceived enjoyment, WOM: Word of Mouth, REC: Recommendation, PRI: Price, ASP: Aspiration, REP: Repurchase intention									

Table 4: Structural Model

			Estimate	S.E.	C.R.	P	Result
Cover	à	Physical Attributes	0.878			***	Supported
Illustration	à	Physical Attributes	0.636	0.041	16.063	***	Supported
Page Extent	à	Physical Attributes	0.826	0.054	18.835	***	Supported
Physical Attributes	à	Aspiration	0.235	0.043	5.331	***	Supported
Perceived Enjoyment	à	Aspiration	0.179	0.045	3.191	0.001	Supported
Price	à	Aspiration	0.205	0.04	4.003	***	Supported
Word of mouth	à	Social Norms	0.923			***	Supported
Recommendation	à	Social Norms	0.673	0.06	11.642	***	Supported
Social Norms	à	Aspiration	0.435	0.035	10.498	***	Supported
Aspiration	à	Repurchase Intention	0.163	0.043	4.264	***	Supported
Goodness-of-fit Statistics: CMIN/df=3.488, GFI=0.905, NFI=0.901, CFI=0.919, TLI=0.904, IFI=0.892, RMSEA=0.075-							

Table 4 explains the structural model explaining the results of hypothesized relationships. Regarding the first hypothesis. All the three variables namely cover ($\beta=0.878$, $p=0.000$), illustration ($\beta=0.636$, $p=0.000$) and page extent ($\beta=0.826$, $p=0.000$) had high loadings indicating their impact of physical attributes and accepting hypothesis H1. Further, physical attributes also had significant impact on aspiration ($\beta=0.235$,

$p=0.000$) thereby accepting H1(a). Perceived enjoyment ($\beta=0.179$, $p=0.000$) and price ($\beta=0.205$, $p=0.000$) also emerged significant but their impact was albeit less than physical attributes. Based on these results H2 and H3 are also accepted.

Moving further, word-of-mouth ($\beta=0.923$, $p=0.000$) and recommendation ($\beta=0.673$, $p=0.000$) had high loadings indicating their

Table 5: Correlations Matrix

	COV	ILL	PAG	ENJ	SOC	REC	PRI	ASP	REP
COV	0.738								
ILL	.558**	0.719							
PAG	.625**	.525**	0.801						
ENJ	.710**	.489**	.701**	0.788					
SOC	.505**	.321**	.554**	.636**	0.754				
REC	.663**	.587**	.685**	.713**	.569**	0.790			
PRI	.660**	.430**	.681**	.833**	.610**	.644**	0.836		
ASP	.587**	.426**	.625**	.708**	.638**	.626**	.696**	0.816	
REP	.046	.037	.095*	.099*	.080	.090*	.095*	.188**	0.800

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed). COV: Cover, ILL: Illustration (Please complete by adding abbreviations of all constructs)

significance in enhancing social influence. Therefore, H4(a) is accepted which suggests that social influence is a multidimensional construct significantly predicted by word-of-mouth and recommendation. Social influence emerged as a strongest predictor of aspirations ($\beta=0.435$, $p=0.000$) thereby accepting H4.

Finally, aspiration had significant positive impact on repurchase intention ($\beta=0.163$, $p=0.000$). Thus, hypothesis H5 is also accepted.

Structural Model



Annexure 1 contains the CFA diagram.

DISCUSSION AND CONCLUSIONS

This study tries to understand factors influencing purchase of schoolbooks. The study also tries to understand the impact of aspiration on purchase intention of books.

In riposte to the first RO, all the three sub-constructs of physical attributes (cover, illustration and page extent) loaded significantly. Cover emerged as a strongest attribute indicating that attractive cover design stimulates a parent to buy a book. This finding supports the previous studies by Leitao et al. (2018) and Astous et al. (2006) where cover had influenced purchase decision. This was followed by page extent indicating the significance of in-depth and gripping description with adequate interpretation of concepts facilitates purchase of books. Previous studies (Zhang et al., 2017; Leitao et al., 2018) also highlighted the need of comprehensive coverage of course materials. Illustrations though emerged significant had least loadings and this finding is also supported by previous studies (Evans et al., 2017; Woody et al., 2010).

Moving further, social norms emerged as strongest predictor of aspiration to purchase

the books. This finding is in sync with previous studies (Kim et al., 2021; Hsu et al., 2017; which also validated the significance of reviews, referrals and recommendations in purchase of books.

This was followed by price thereby supporting the studies of Rao et al., (2018) and Zhang et al., (2017) which highlighted that better the price perception, more is the probability that consumers will decide to purchase the book. This analysis further revealed that parents are price conscious and look for discounts while selecting a book. Price needs to corroborate with the quality of the book. If the price of the book is not as per the quality, consumers will restraint from buying it. Next in the order of priority was physical attributes including cover, page extent and illustrations which is in accordance with the previous studies (Zhang et al., 2017; Leitao et al., 2018; Evans et al., 2017; Woody et al., 2010).

Surprisingly, perceived enjoyment emerged significant but weakest of all the above-mentioned constructs. This finding demonstrates that parents tend to buy those books which they feel that their kids will enjoy reading. This finding is consistent with the previous studies where perceived enjoyment emerged as one of the significant factors leading to purchase of books (Smith et al., 2019; Hsu et al., 2017; Zhang et al., 2017). The finding provides insights to the publishers to give adequate focus on quality, additional discounts, and physical attributes so as to build aspire and motivate consumers to purchase books.

Finally, aspiration had a strong impact on purchase intention thereby supporting the previous studies of Rao et al., (2018) and Smith et al., (2017). This helps us to deduce that aspirations are related with basic needs which directly influences consumer behaviour towards purchase of a product. Therefore, publishers need to impart necessary aspirational values so as to gain competitive advantage. It is also important insights for the publishing companies specially in school education that page extent, covers and perceived enjoyment of the reader are important aspects that needs to be taken in consideration while preparing a book and marketing it to the end user.

Academic Implications

This study took the Means End Chain (MEC) theory as the basis where in MEC is defined as a hierarchy of goals that represents potential identities of the actions necessary for the person to reach his or her goal. In this Theory, two important aspects of persuasion are brought together in focus i.e.

1. Understanding the consumers' personal values.
2. Understanding and identifying the emotional links that ties these values to a particular decision.

Here, we have taken "Aspiration" as the key personal values which person seems to achieve. All his actions are linked to the final achievement of aspiration. Here the action is the purchase intention of the consumer. As is substantiated by the findings. Attributes were found to have a direct impact on aspiration or on the perceived fulfilment of Aspiration.

Aspiration thereof, was found to have a significant positive impact on the purchase intention of the consumer. This substantiates that the Means End Chain theory also holds true in case of purchase intention of schoolbooks.

Managerial Implications

Managerial implications are far more deep rested as can be initially perceived. Publication as an industry is flourishing in India. And, of that 90% publisher are education book publishers. For an industry which values at 13000 crore Indian rupees, this study provides them a great insight as to what and how they can link different aspects of their books to the fulfilment of the readers aspiration. The impact that various attributes have on the final purchase intention is of great value to the industry and this shall also help the industry to identify that how price, perceived enjoyment etc. impact the reader. This will make their marketing efforts more focussed leading to higher ROIs.

Limitations and Future Research

This research attempts to explore the factors influencing purchase intention of books. Therefore, it has certain limitations. First, these factors like physical attributes, perceived enjoyment, social norms need to be validated for specific cohorts like primary, secondary and

higher secondary classes to confirm a generalized perception. Second, since the research was conducted in India, but there may be difference in perception of parents staying in other developing and SAARC nations. Future studies may compare these variables in other developing countries as well as developed countries. Additionally, future studies may consider variables like trust in publisher, attitude, habit, government policy, school recommendation and these may be validated as mediators also. This research didn't consider the role of moderating variables like demographic variables which may be an interesting future avenue for further studies.

Declaration on conflict of Interest.

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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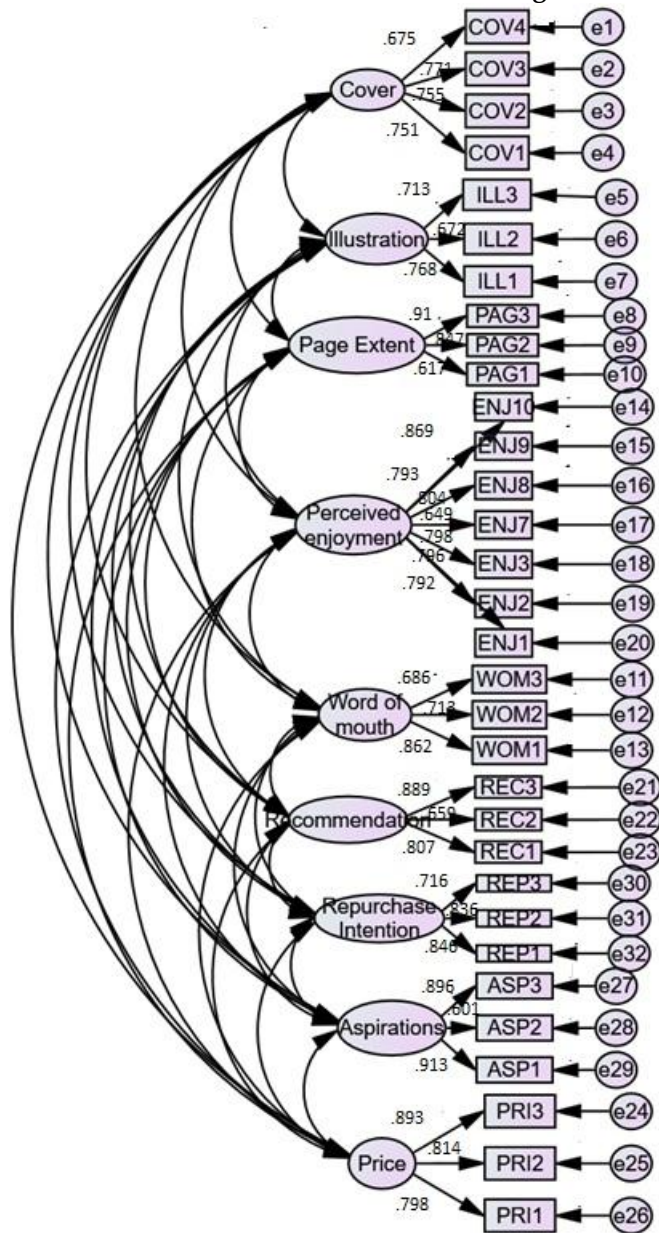
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Annexure 1
CFA diagram



DIGITALIZATION IN EDUCATION: APPLICATION OF UTAUT TO USE LEARNING MANAGEMENT SYSTEM

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ABSTRACT

E-learning is a way of instruction in higher education around the world. In e-learning systems, digital technologies are utilized to obtain, store, and process learning resources. Using the Unified Theory of Acceptance and Use of Technology (UTAUT) model, the current study intends to evaluate faculty willingness to use Learning Management Systems in Higher Education Institutes in India. The UTAUT has been extended to incorporate two more variables: UTAUT-2's 'Hedonic Motivation' and the D& M Model's 'Course Quality.' A standardized questionnaire is used to obtain data from 480 respondents. The study used PLS-SEM for data analysis and applied Structural Equation Modelling. It is revealed that the constructs of extended UTAUT have a crucial impact on the acceptability behaviour of faculty in Higher Education Institutes in India to use the Learning Management System. The current study is unusual as it used extended UTAUT to achieve the study's goals. The outcomes of this study have significant ramifications for different stakeholders in India's higher education institutions.

Keywords: Higher Education Institutes, Learning Management System, extended UTAUT, PLS-SEM

1. INTRODUCTION

Access to education had been completely obstructed during COVID-19 if information technology had not provided us with the possible alternatives (Raza et al., 2021a). One of these options was a Learning Management System, which allowed the teaching and learning process to continue throughout that time (Roy & Brown, 2022).

Learning Management System is an internet-based technology that facilitates remote but face to face delivery of the course content by a teacher to his students (Veluvali & Suriseti, 2021). It helps to manage online learning by creating streamlined communication between instructors and learners (Shurygin et al., 2021). LMS is generally confused with the terms like e-learning, virtual learning and remote learning. No doubt, all these are developments in which technology plays the most crucial role in the domain of education. The common feature of LMS and virtual learning is using

the internet to enhance the learning process, but apart from delivering course and learning material online, LMS manages the whole education process (Al-Adwan et al., 2022). The first LMS program was invented by a professor of Psychology, Prof. Sidney Pressey. This invention was to permit teachers to focus on more analytical activities for their students (Kadosh & Dowker, 2015; sethi et al., 2021).

Since then, LMS programs have become famous in academia, and the use of these applications has increased manifold during the times of pandemic. Many renowned educational institutions have started making use of LMS for the effective learning of their students. The use of LMS helps to create and manage the course, course schedule, attendance, online assessment, discussions etc. (Al-Adwan et al., 2022).

The most commonly used learning management systems in the education sector

are Blackboard, Moodle, Canvas, Google Classroom and Litmos. All these are open-source learning management systems and are very beneficial for both learners as well as instructors (Ghosh et al., 2019). But despite too many benefits, the effective functioning of LMS depends upon both learners' and instructors' intention (Ikhsan et al., 2021). The availability of technology is not a surety that it will be used and accepted by faculty and students (Al-Adwan et al., 2022; Jain et al., 2021; Jhamb et al., 2021). Some studies in the past show that the dropout rate of students in online learning programs is much higher than offline model of learning (Dodge et al., 2009; Ikhsan et al., 2021). Many experts have looked into the aspects that influence students' acceptance of online learning programs by applying different technology acceptance models (Alshehri et al., 2019, 2020; Buabeng-Andoh & Baah, 2020a; Obienue & Amadin, 2021; Raza et al., 2021a; Thongsri et al., 2019; Wut & Lee, 2021). Obienue & Amadin (2021) applied an innovative model to identify students' behaviour towards learning innovations. The four constructs used in this model positively influenced the behaviour of users towards innovations in learning (Obienue & Amadin, 2021). Another study extended UTAUT and identified 'personal innovation' and 'financial cost' as important predictors affecting university students' behaviour to use Learning Management System (Twum et al., 2021).

So, most of these researchers looked into students' intentions to use an LMS. Only a research done in a university of South Africa, and another one in a university of Iran studied the behavioural intentions of university teaching staff regarding adopting a Learning Management System (Moonsamy & Govender, 2018; Motaghian et al., 2013) but these studies were conducted a few years back and the results of these studies are not applicable in the present context. A previous research also investigated the desire of teachers who had to join their service yet, to utilize a learning management system and reported that attitude and societal influence affect behaviour towards usage of technology but facilitating conditions do not (Buabeng-Andoh & Baah, 2020b). The analysis of previous literature on LMS usage reveals that using technology acceptance models and employing their original constructs is deemed

insufficient in identifying concerns connected to sustained LMS usage goals in the present scenario (Al-Adwan et al., 2022; Almaiah & Alyoussef, 2019; Ashrafi et al., 2020). Most of these studies overlook essential elements like course quality and hedonic motivation which can help to increase learning management system acceptability and utilisation. From this standpoint, it's vital to figure out what elements influenced higher education faculty's LMS utilisation intentions during COVID-19 pandemic and even after pandemic. As a result, the current study raises the question "What are the significant elements influencing higher education faculty's continuous usage of LMS?" The current study fills the gap by proposing a complete model incorporating two additional constructs of behavioural intention and verifying the hypotheses in the present environment of online learning. A survey of 480 faculty members from India's higher education institutions is done. For data analysis, Partial Least Squares (PLS) and Structured Equation Modelling (SEM) are used.

2. PREVIOUS RESEARCH

2.1 Theoretical Framework

The current study presents and examines a conceptual model of Learning Management System adoption by incorporating two additional constructs, 'Hedonic Motivation' and 'Course Quality' to UTAUT. The initial UTAUT model was developed by Venkatesh et al; (2003) and includes four core constructs effort expectancy, performance expectancy, social influence, and facilitating conditions and four demographic mediating variables affecting the primary constructs to ascertain the impact of these constructs on the intention of use of technology. This model helps the researchers present an apparent effect of technology acceptance constructs (Raza et al., 2021a). UTAUT 2 was created by adding three new constructs to the original UTAUT: price value, hedonic motivation and habit. (Venkatesh et al., 2012). Thus UTAUT 2 has 7 main constructs and 3 mediating variables. The model employed in the present research has taken the first 4 constructs from UTAUT by including a construct 'Hedonic Motivation' from UTAUT-2 (Venkatesh et al., 2012) and another construct 'Course Quality' from D& M Model (DeLone & McLean, 1992). The figure below shows the proposed conceptual model,

and the next section describes the predicted relations based upon available literature.

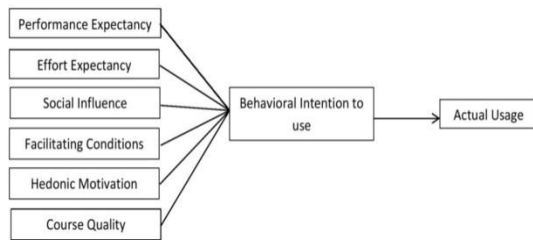


Figure 1: Proposed Conceptual Model

Performance Expectancy

Performance expectancy means how well a technology accomplishes the required task. (Ahmed et al., 2021; Venkatesh et al., 2003). With regard to the perception of teachers regarding teaching via learning management system, it is their belief regarding the effectiveness of LMS in teaching (Buabeng-Andoh & Baah, 2020b). Most of the previous researchers believe that willingness of students to use LMS is affected by their expectations regarding the performance of that system (Ahmed et al., 2021; Alshehri et al., 2020; Raza et al., 2021a). Buabeng & Baah, 2020 reported that pre-service teachers' intention is also positively affected by their expectations from the performance of the learning management system in teaching (Buabeng-Andoh & Baah, 2020b). But one of the studies reported that the behavioural intention of students to use LMS was not supported by PE (Fidani & Idrizi, 2012). Due to contradictory outcomes of previous research, the authors in this study further investigated this construct.

H1: Performance Expectancy significantly supports the behavioural intention of faculty in higher education institutes to use LMS.

Effort Expectancy

The effort expectancy of a system means how easily that system can be used. If the user thinks it is simple, he is more likely to use it (Venkatesh et al., 2003). In the case of using an LMS, the learners' will to use it is also associated with the ease of using it (Alshehri et al., 2020). Many previous researches reported that it has a substantial effect on the willingness of students to use learning management systems for learning (Ahmed et al., 2021; Dwivedi et al., 2019; Raza et al.,

2021b). But the study conducted by Zwain (2019) concluded that effort expectancy did not support both faculty and students' willingness. In the present study, the authors present the following hypothesis:

H2: Effort Expectancy significantly supports the behavioural intention of faculty in higher education institutes to use LMS.

Social Influence

Social influence means the effect of the perception of nearby people on one's perception regarding the acceptance of technology (Venkatesh et al., 2003). If we talk about LMS acceptability, it is the effect of teachers' and students' social networks on their motivation to utilize learning management systems. Venkatesh et al. (2003) reported a favourable correlation between social impact and users' willingness to accept technology. Most previous researchers also support this hypothesis and believe that social influence affects students' intention to use LMS. (Abdallah et al., 2021; Abdou & Jasimuddin, 2020; Adwan et al., 2018; Ahmed et al., 2021; Dwivedi et al., 2019; Fidani & Idrizi, 2012.; Ikhsan et al., 2021;; Raza et al., 2021a; Wut & Lee, 2021). One of the previous Research proves that it is a very important factor affecting women's behaviour towards technology but an insignificant factor in the case of males (the BITS Pilani, India et al., 2020). Social influence also supports faculty's intention to use LMS' Blackboard', but it is not a very important predictor affecting the users of this LMS (Moonsamy & Govender, 2018). Prasad et al. reported social influence as a very strong predictor to impact the behaviour of international students towards blended learning (Prasad et al., 2018; Habeeb et al., 2021). Whereas, the behaviour of faculty towards LMS' Blackboard' at a South African university was less impacted by their social circles (Moonsamy & Govender, 2018). Studies conducted at Community College to investigate the use of LMS through mobile access and at a University College at Ghana reported insignificant association between social influence and intention as well as actual usage of LMS (Buabeng-Andoh & Baah, 2020a;). In the present study, the authors propose the following hypothesis:

H3: Social Influence significantly supports the behavioural intention of faculty in higher education institutes to use LMS.

Facilitating Conditions

Facilitating conditions means the availability of adequate infrastructural and technical conditions supporting its users' use of a technology (Venkatesh et al., 2003). When we talk about a learning management system, facilitating conditions refer to the technical and other supporting conditions that emphasize using the system (Raza et al., 2021a). In the UTAUT model, Venkatesh et al. did not find an important connotation between facilitating conditions and users' will of a technology to use the same. Later, many studies confirmed similar results and reported facilitating conditions as an insignificant predictor affecting students' willingness to use LMS (Alshehri et al., 2020; Buabeng-Andoh & Baah, 2020a; Fidani & Idrizi, 2012; Raza et al., 2021a; the BITS Pilani, India et al., 2020). On the other hand, many other researchers contradicted these findings, finding that facilitating conditions, along with performance expectancy, effort expectancy, and social impact, are all essential constructs influencing the behaviour of LMS users. (Abdallah et al., 2021; Abdou & Jasimuddin, 2020; Ahmed et al., 2021; Moonsamy & Govender, 2018; Prasad et al., 2018; Raza et al., 2021b). Another research was conducted at Community College, Hong Kong, to determine the predictors of the adoption of mobile access to learning management systems used at that college and found facilitating conditions as the most significant factor (Wut & Lee, 2021; Poonia et al., 2021). Due to dissimilarity in the results of previous researches, the authors were motivated to conduct the further research and proposed the following hypothesis:

H4: Facilitating Conditions significantly support the behavioural intention of faculty in higher education institutes to use LMS.

Hedonic Motivation

Hedonic motivation is an internal factor affecting the willingness to use a particular technology. The above mentioned four constructs are taken from UTAUT Model. According to this model, the essential factor influencing a technology user's intention is performance expectancy (Venkatesh et al.,

2003), and this construct is an external motivational factor. In UTAUT-2, Venkatesh and colleagues incorporated three more variables including hedonic motivation in the original model. The authors in this study have taken the hedonic motivation construct of UTAUT-2 in their model. One previous study named this construct as 'Perceived Enjoyment' (Ahmed et al., 2021). Hedonic motivation refers to the role played by technology in a person's perception of gladness and is an internal motivational factor (Escobar-Rodríguez et al., 2014; Escobar-Rodríguez & Carvajal-Trujillo, 2014). Various studies in the domain of information technology have proved it a strong predictor affecting the use of the technology (Alshehri et al., 2019; Ayyagari, 2006; Balog & Pribeanu, 2010; Wang & Scheepers, 2012). But no particular study related to learning management systems has studied the effect of this construct on the intention of learners and instructors. So, the researchers in the present research have also studied this construct. Following is the hypothesis taken in relation to this construct.

H5: Hedonic Motivation significantly supports the behavioural intention of faculty in higher education institutes to use LMS.

Course Quality

Another important construct taken in the present research is 'Course Quality'. This construct is taken from the study of Mtebe and Raisamo (Mtebe & Raisamo, 2014), who had taken this construct from D&M Model, 1992 & 2003 in which it is named 'information quality'. According to this model, information quality is a very important factor affecting the intention of users (DeLone & McLean, 1992). A course at a learning management system providing quality learning to the students will satisfy the learners. So, they will be interested in studying through that learning management system management system in the future also (Mtebe & Raisamo, 2014). The users of an online learning application also confirm information quality as a strong predictor affecting their intention to use that application (Thongsri et al., 2019). Most empirical evidence regarding this construct considers it a strong and significant variable affecting the users' usage of a particular technology (Aparicio et al., 2017; Hassanzadeh et al., 2012). But a few researchers found it an insignificant factor to influence the users

(Alshehri et al., 2019; Ameen et al., 2019). The idea behind incorporating this construct in their model is that the course quality influences the learners. The faculty is also motivated when the course outcomes are measurable and attainable, and the course content is academically significant. Following is the hypothesis taken in relation to this construct.

H6: Course Quality significantly supports the behavioural intention of faculty in higher education institutes to use LMS in teaching.

Behavioural Intention

The empirical evidence on technology adoption models depicts that behavioural intention results from the above discussed basic constructs acting together. But in the context of LMS, many researchers believe that actual usage by the user is the outcome of the intention of users' to use LMS (Ahmed et al., 2021; Raza et al., 2021b). In e-learning, behavioural intention is the level of commitment of faculty to use a learning management system to fulfil their teaching objectives (Raza et al., 2021a). The behavioural intention of users is affected by all other constructs discussed above, which affects the actual use of LMS by faculty. Empirical research suggests a link between a user's willingness and actual use of the LMS. (Alshehri et al., 2020; Ameen et al., 2019; Motaghian et al., 2013; Raza et al., 2021a). Following is the hypothesis taken in relation to this construct.

H7: Behavioural Intention significantly supports the actual use of LMS by faculty in higher education institutes.

3. DATA INPUTS AND RESEARCH METHODOLOGY

3.1. Context and Subjects

The present study derived the results from primary data, for which information was obtained through online surveys (Hanaysha et al., 2021; Sharma et al., 2021). Desired data was gathered using a structured questionnaire. The survey instruments comprised 36 items (Appendix A) to evaluate the proposed model's eight components. Items were modified from prior research, with content changes made to make them pertinent to this research. Seven constructs were rated on a five-point Likert scale fluctuating from 1

to 5, with one indicating "strongly disagree", and five indicating "strongly agree." On a five-point scale, respondents were asked to rate how often they used the LMS platform, with five being "more than once a day" and one meaning "never".

The survey instrument was sent to more than 1000 respondents, of which 540 filled questionnaires were received. The study needed a minimal sample size of 159 respondents using G*Power software version 3.1.9.7 (Faul et al., 2007; Sharma et al., 2021, 2022a, 2022b); however, a sample size of 480 was used that met the acceptable sample size criteria. Out of 540 questionnaires, 60 were eliminated during the data cleaning process as these were either incomplete or some other biasness was noticed in the responses.

Before final research, a pilot survey was undertaken to assess the questionnaire items' reliability. To conduct this survey, 50 faculties were selected randomly from the targeted population. Application of Cronbach's alpha was made to regulate the inner dependability of the constructions' components, It is considered acceptable if value of reliability coefficient of 0.70 or greater. (Nunnally & Bernstein, 1994; Arya et al., 2018). As shown in **Table 1, the value of all constructs is more than or equal to 0.768.**

Table 1. Cronbach's alpha values for the pilot research

Constructs	Cronbach's Alpha
PE	0.948
EE	0.894
SI	0.936
FC	0.88
HM	0.896
CQ	0.91
BI	0.768
AU	0.892

3.2. Findings of study

The study framework is constructed based on the prior literature and indicates a structural relationship between constructs. The model is analysed using a multivariate statistical technique. The link between constructs is studied using SEM. This method combines factor analysis and multiple linear regression analysis to reveal multiple causal impact

relationships between components (Jr et al., 2017).

3.3. Checking convergent and discriminant validity

The model is evaluated using the PLS-SEM method (Rashid et al., 2022; Sharma et al., 2021, 2022a, 2022b). Standardised loadings have been calculated in (Table 2). The loading score for each element was more than 0.708.

the construct is internally consistent and reliable (Shashi et al.; 2020). Convergent validity is checked using the composite reliability index (CRI) and average variance. The minimum condition for validity is when the Average Variance Extract of all constructs is greater than 0.50 (Arya et al., 2021; 2019).

The Fornell-Larcker criterion is utilized to test the Discriminant validity (Fornell & Larcker,

Table 2: The evaluated Outcomes of the constructs of the measurement model

Construct/ Associated Items	Inner loadings	CR	AVE
ActUse			
AU1	0.828		
AU2	0.887	0.891	0.732
AU3	0.85		
BI			
BI1	0.722		
BI2	0.722	0.768	0.524
BI3	0.728		
ConsumQty			
CQ1	0.746		
CQ2	0.702	0.899	0.648
CQ3	0.724		
CQ4	0.733		
CQ5	1.061		
EffrtExpct			
EE1	0.794		
EE2	0.738		
EE3	0.775	0.893	0.626
EE4	0.818		
EE5	0.828		
FC			
FC1	0.703		
FC2	0.757		
FC3	0.783	0.879	0.592
FC4	0.774		
FC5	0.826		
Hedonic			
HM1	0.713		
HM2	0.819		
HM3	0.765	0.898	0.638
HM4	0.824		
HM5	0.862		
PerfExpect			
PE1	0.814		
PE2	0.865		
PE3	0.907		
PE4	0.889	0.948	0.785
PE5	0.949		

SocialInflu

The another step is to look at the CR to see if

SI1 0.798

SI2 0.805

SI3 0.83

SI4 0.957

SI5 0.914

1981). Discriminant validity Proves its

265 0.936

0.745

existence when the differences amongst the study constructs are smaller than the difference that every construct divides amongst its other items in the model, and also discriminant validity is considered to be assessed when the square root of the Average variance extracted is larger than the correlation's index. Table 3 shows that all constructs meet the criteria.

validity and eventually, this will lead to the real use of LMS platform. To confirm that the regression findings were unbiased, The latent variable scores of the PLS-SEM findings were used by VIF to analyse collinearity among the exogenous variables. A VIF score of less than 5 means that the predictor variables are not collinear.

The model's VIF values in this study vary

Table 3: Discriminant Validity – Fornell-Larcker Criterion

	AU	BI	CQ	EE	FC	HM	PE	SI
AU	0.855							
BI	0.609	0.724						
CQ	0.525	0.497	0.805					
EE	0.449	0.566	0.393	0.791				
FC	0.412	0.532	0.375	0.527	0.77			
HM	0.721	0.6	0.441	0.573	0.466	0.799		
PE	0.551	0.61	0.471	0.464	0.448	0.586	0.886	
SI	0.423	0.536	0.315	0.377	0.366	0.449	0.582	0.863

Source: Author's Calculation

3.4. Discriminant Validity – HeterotraitMonotrait Ratio (HTMT)

HeterotraitMonotrait Ratio(HTMT) is also used to examine discriminant validity. Ringle Henseler and Sarstedt devised the HTMT approach for assessing discriminant validity in 2015 (Henseler et al., 2015). The HTMT ratio indexes must be less than 0.85 if a more stringent criterion is used (Kline, 2011). The HTMT can reach 0.90 (Gold et al., 2001). All of the connections in Table 4 have a score of less than 0.90.

from 1 to 2.068. Although the VIF for all variables is less than 5, this indicates no collinearity. The relevance of the path coefficients must be evaluated once the collinearity issue has been investigated (Narula et al., 2020).

Seven hypotheses were supported at a 5% level of significance (Table 5). In this pandemic period, the performance expectancy of a learning management system ($\beta = 0.182$, p value < 0.05) substantially influences the behavioural intention of faculty to use LMS for

Table 4: Discriminant Validity –HeterotraitMonotrait Ratio (HTMT)

	AU	BI	CQ	EE	FC	HM	PE	SI
AU								
BI	0.608							
CQ	0.521	0.481						
EE	0.448	0.565	0.383					
FC	0.41	0.53	0.365	0.525				
HM	0.715	0.601	0.439	0.577	0.471			
PE	0.55	0.609	0.46	0.464	0.448	0.588		
SI	0.421	0.534	0.309	0.373	0.361	0.448	0.58	

Source: Calculations done by Authors

3.5. Testing hypotheses of the study

The coefficient of multiple regression equation is projected to assess the relationship between the constructs, which include magnitudes of CQ, EE, FC, HM, PE, SI and BI of faculties to use the LMS platform, after the measurement model has been established for reliability and

conducting online classes and other accomplishments. As a result, the H1 hypothesis was adequately supported by the findings. As the value of Beta β is 0.171 and p -value < 0.05, Effort expectancy has a substantial positive effect on the behavioural

intention of faculty, indicating that the results support alternative hypothesis H2.

Most of the faculty of higher education institutions is positively influenced due to the support of authorities as during pandemic, administration of educational institutions have also realized the importance of e-learning so, they wish their faculty to incorporate the use of LMS in teaching and provide adequate infrastructural and technological support. Even most open-source LMS are mobile-friendly, so it is easy for faculty to manage from anywhere according to their schedule. So, social influence ($\beta = 0.182$ and (Value of P) < 0.05) and facilitating conditions (β value = 0.157 and (Value of P) < 0.05) significantly influence the behavioural intention of faculty to use LMS and H3 and H4 are duly supported by the findings.

The authors in this research believe that the behavioural intention of faculty is not only influenced by external factors. Rather most of the respondents feel enjoyment by using LMS in their teaching. They employed an extended UTAUT model by including a construct 'Hedonic Motivation' from the UTAUT-2 model. Most respondents believe that LMS provides the best learning experience to their students, providing them with positive motivation and feeling highly satisfied. Therefore hypothesis H5 is also significant and supported. Hypothesis H6 is related to the construct 'Course Quality'. Most of the faculty in higher educational institutions believe that the learning outcomes of a course in LMS are attainable, and LMS provides academically significant concepts which significantly supports H6 with $\beta = 0.153$ and p-value < 0.05 . The results show that the behavioural intention of faculty positively influences the

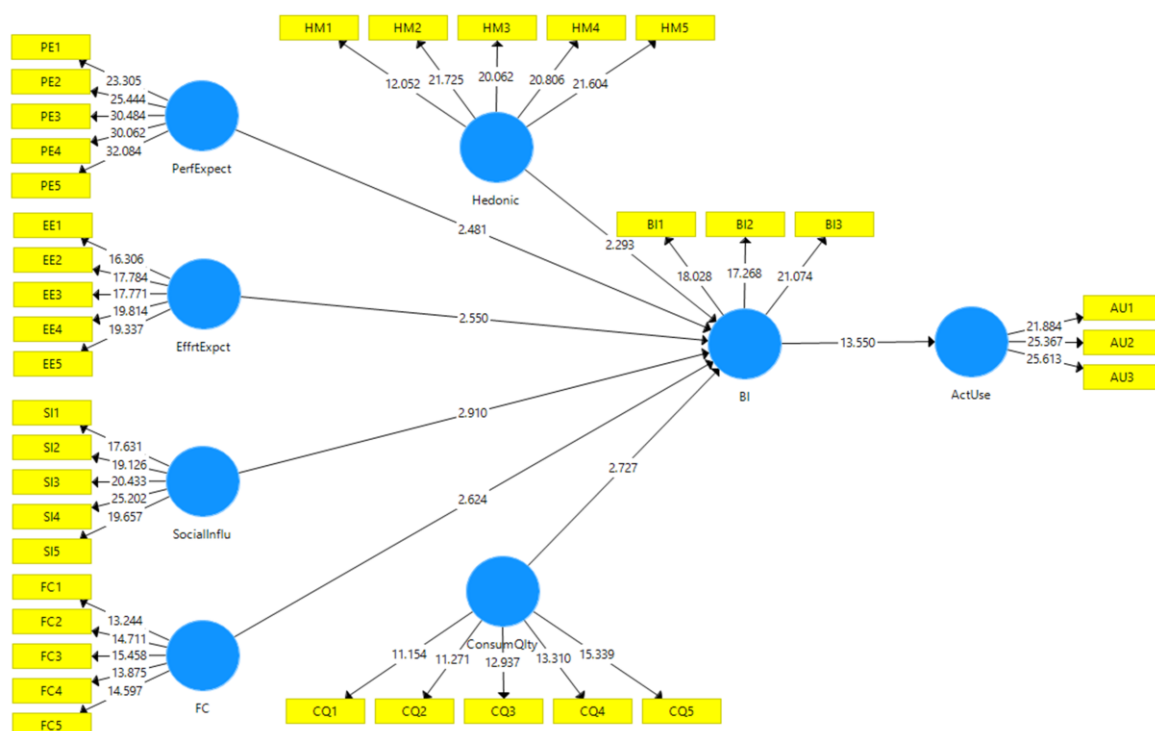


Figure : Structural Equation Model of the study

Table 5: Results of Hypothesis Testing

Hypotheses Testing	Original Sample (O)	Sample Mean (M)	Standard Deviation (SD)	T Statistics (|O/SD)	P-Values	Decision
H1: PE > BI	0.182	0.183	0.074	2.481	0.013	Supported
H2: EE > BI	0.171	0.171	0.067	2.55	0.011	Supported
H3: SI > BI	0.182	0.177	0.062	2.91	0.004	Supported
H4: FC > BI	0.157	0.155	0.06	2.624	0.009	Supported
H5: HM > BI	0.175	0.175	0.076	2.293	0.022	Supported
H6: CC > BI	0.153	0.16	0.056	2.727	0.007	Supported
H7: BI > AU	0.613	0.611	0.045	13.55	0	Supported

actual use of LMS by faculty in higher education institutions. So H7 has also been supported by $\beta = 0.613$ and $p\text{-value} = 0$.

In this study, the model's forecasted capacity was assessed using Stone-Geissers (Q2) cross-validated redundancy, an extensively used procedure in PLS, and a predictive relevance threshold of 7. (Chin, 2010; Hair et al., 2021). The Q-square measures the predictive importance, and the Q-square for this model is displayed in Table-6, demonstrating that it holds a solid predictive ability.

Table 6: Predictive Power of the Model
R squared

	R Square	R Square Adjusted
AU	0.371	0.37
BI	0.568	0.562

Quality of Measurement Model

	SSO	SSE	Q ² (=1-SSE/SSO)
AU	0.371	0.37	0.605
BI	0.568	0.562	0.365
CQ	2400	986.425	0.589
EE	2400	1080.857	0.55
FC	2400	1178.313	0.509
HM	2400	1051.643	0.562
PE	2400	648.39	0.73
SI	2400	756.148	0.685

Source: Author's Calculation

4. DISCUSSION

The present study has tested an extended UTAUT model regarding the acceptance of LMS by the faculty of higher educational institutions in India. As a result, this study is an addition to the available literature on LMS acceptance. The study confirms that the constructs of the UTAUT model influence the behaviour of faculty to use LMS. The study included two external constructs, 'Hedonic Motivation' and 'Course Quality' and extended UTAUT Model. In the present scenario, no doubt, external environmental concerns influence faculty to be dependent upon online platforms for teaching (Bhatt & Shiva, 2020) but incorporating the use of an LMS, if not a compulsion by the authorities, depends upon the intrinsic motivation of faculty along with external factors. So, it is an important construct to be studied as no particular study in the context of LMS has studied it earlier. The authors' purpose of

incorporating the construct of course quality in their model is that the faculty is also motivated to use LMS as the course outcomes provided via LMS are measurable and the course content becomes academically very important. The hypotheses in this study are tested through PLS-SEM, and the results support all seven hypotheses. PE has a favourable and significant effect on behavioural intention, according to the findings, which are consistent with earlier studies. (Ahmed et al., 2021; Alshehri et al., 2019; Raza et al., 2021a, 2021b). This emphasises the relevance of the e-learning system's helpful capabilities (e.g., receiving assignments, offering valuable learning materials) in improving faculty delivery effectiveness, which raises their intentions to utilise the system on a regular basis. EE has been discovered to be an important predictor of behavioural intention. This suggests that the easier an e-learning platform is to use and requires less effort, the more probable it is that faculty will find it valuable and continue to use it (Ahmed et al., 2021; Al-Adwan et al., 2022; Dwivedi et al., 2019; Raza et al., 2021b). The findings show that faculty believe they will continue to utilise the e-learning system because of the external influence of people they see as important (i.e., professors, peers, and administrators). This means that instructors, administrators, and peers must play an important role in inspiring and motivating faculty to use the e-learning system. (Abdallah et al., 2021; Abdou & Jasimuddin, 2020; Ahmed et al., 2021; Ikhsan et al., 2021). One of the primary enablers of ongoing intentions to use LMS is the idea of facilitating conditions (FC). This conclusion contradicts several prior research, including the original UTAUT, which didn't find it an important factor. (Alshehri et al., 2019; Raza et al., 2021b) but consistent with some others (Abdallah et al., 2021; Abdou & Jasimuddin, 2020; Ahmed et al., 2021). It suggests that teachers believe the presence of a technological and organisational infrastructure is important in enhancing their intentions to use the e-learning system in the future. Faculty is encouraged to use the e-learning system because of amenities such as technical support, adequate Internet connectivity, and the availability of appropriate gadgets. In one of the earlier research, hedonic motivation is a very strong predictor that affects the users' intention in the context of booking online

tickets of low-cost carriers and players of online games (Wang & Scheepers, 2012). A previous study also considers it essential to impact students' intention to use a teaching platform (Balog & Pribeanu, 2010). The present study confirms the previous results and proves it a significant predictor in affecting behavioural intention towards learning management system also. Confirming the literature results in the context of e-learning, the present study also considers course quality an important variable in affecting the willingness of faculty to use the Learning Management System (Aparicio et al., 2017; Thongsri et al., 2019). Ultimately, the behavioural intention of faculty in higher education institutes significantly influences them to use LMS.

4.1 Theoretical Implications

The original UTAUT model offered a set of four constructs that influence users' willingness to use a system. Two of the elements in that model, performance and effort expectancy can be thought of as technological or system features, while the other two, facilitating conditions and social influence, can be thought of as organizational aspects that influence users' behavior. A significant omission in the conception of the original UTAUT model is the characteristics of the person who actually uses or intends to use the system. Another crucial issue that is overlooked in the original model is the quality of the course content delivered by the system. By incorporating these two dimensions that influence learning management system adoption, i.e. course quality and hedonic motivation, the current study has made a substantial contribution. As a result, this study sheds light on the most critical elements influencing faculty acceptance of learning management systems in India's higher education institutions. The empirical examination of the research model confirms all the constructs used in the model as valid and significant.

The initial UTAUT model had four moderators (gender, age, experience, and voluntariness), which was a notable divergence from other acceptance and usage models at the time, such as TRA and TAM. Although moderators are useful, they are only appropriate and meaningful when there is sufficient difference in moderators between

persons in the same environment. Individuals coming into touch with a learning management system are assumed to have great leeway in their adoption and usage decisions; however, this is not always the case in situations where authorities in educational institutes have compelled the adoption and use of a learning management system by faculty. In other words, moderators may not be universally applicable to all circumstances, and so are ineffective in present situation. This could be one of the reasons why the majority of the studies in our literature did not incorporate these moderators in their study models. Our research reveals that theorizing on direct impacts missing in the original UTAUT model could be beneficial and significant. Finally, our research provides additional support for those of previous studies which developed their models based on UTAUT and provided related outcomes.

4.2 Practical Implications

From a practical standpoint, the current study provides useful directions for educational institutions to entice faculty to use LMS. The data shows that faculty performance expectation is an important element in determining whether or not they will use a learning management system. As a result, implementing effective awareness tactics and providing proper training and workshops on the benefits of using LMS is critical to improving faculty perceptions of performance expectancy. The favourable effects of effort anticipation on faculty behavioural intention show that LMS should have user-friendly and simple functions. This will encourage academicians to re-use these systems without being forced to do so. As a result, LMS developers should design user-friendly interfaces and simple processes to lessen the complexity of these systems. Faculty will avoid adopting LMS if they perceive them to be difficult and hard to use for course delivery. Another key factor influencing faculty's decision to utilize an LMS is social influence. Peers, particularly those who have had favourable experiences with LMS, play a crucial role in persuading others to continue using them. The creation of favourable conditions is critical for increasing the use of LMS. As a result, e-learning policy should focus on providing appropriate e-learning infrastructure, proper Internet and computer access, and effective IT technical assistance to

remove barriers to students and instructors using e-learning. LMS developers must concentrate on creating an up-to-date system that will assist faculty in delivering high-quality course content in the form of videos and quizzes that are tailored to learners' abilities. Hedonic motivation was also examined in this study as a significant element influencing teacher desire to employ LMS. As a result, LMS developers should include quality features in their LMS, and educational institutes should encourage and reward their faculty who adopt e-learning systems, so that their entire faculty uses LMS not because they are under pressure from authorities, but because they enjoy delivering their courses and doing other academic work through LMS.

5. DIRECTIONS FOR FUTURE RESEARCH

The current research developed a model of the LMS acceptability by faculty of higher education institutions. The study's findings show that basic constructs substantially impact behavioural intention which further impact faculty's decision to use LMS.

However, there are several limitations to this research. First, the study is employed upon only the faculty of higher education institutes; as a result, the findings of this study cannot be applied to all school instructors. Second, the study is conducted in India only, so it gives directions to future scholars on how to implement this extended model in other nations to identify the usage of the Learning Management System there. Third, this study does not include a complete list of factors that may impact faculty's behavioural intention in higher education institutes to use LMS. For example, the impact of the factors like perceived cost and level of awareness may also be studied by future researchers.

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Table 7: Questionnaire

Construct	Question
Performance Expectancy	PE1: I find LMS useful in teaching. PE2: Using LMS helps me to accomplish my tasks very quickly. PE3: Using LMS enhances my productivity. PE4: Using LMS increases chances of getting a rise in my salary. PE5: LMS offers me the ability to track learners' performance.
Effort Expectancy	EE1: LMS is easy to use. EE2: LMS is clear and understandable. EE3: LMS allows me to control the content of my course. EE4: Use of LMS saves my time. EE5: Overall, I find LMS user-friendly.
Social Influence	SI1: My colleagues motivate me to use LMS. SI2: My authorities support the use of LMS in teaching. SI3: Adoption of LMS indicates me to have a better status than those who do not. SI4: My students are capable of using LMS to facilitate their learning in my class. SI5: My students believe that learning through LMS will enhance their academic knowledge.
Facilitating Condition	FC1: I have resources necessary to use LMS. FC2: I have knowledge necessary to use LMS. FC3: The use of LMS does not require the knowledge of any specialised programming language. FC4: My LMS is compatible with existing e- content. FC5: The software of my LMS is mobile friendly.
Hedonic Motivation	HM1: I feel enjoyment in teaching through LMS. HM2: I like to spend more time and efforts on using LMS. HM3: I believe that my online course through LMS delivers best possible learning experience to my students. HM4: My working efficiency has increased with use of LMS. HM5: Overall, I am satisfied by teaching through LMS.
Course Quality	CQ1: The course content helps the learner to achieve the stated learning objectives. CQ2: The course content is up-to date. CQ3: The content in LMS is presented according to learners' abilities and knowledge. CQ4: The content in LMS presents academically significant concepts and models. CQ5: The learning outcomes of the course are measurable and attainable.
Behavioural Intentions	BI1: I intend to continue using LMS. BI2: I will use LMS on regular basis in future. BI3: I will recommend LMS to my colleagues.
Actual Usage	AU1: I use LMS frequently. AU2: I fully depend upon LMS for my teaching. AU3: I use LMS for some specific teaching assignments.

LET'S CONNECT IN METAVERSE. BRAND'S NEW DESTINATION TO INCREASE CONSUMERS' AFFECTIVE BRAND ENGAGEMENT & THEIR SATISFACTION AND ADVOCACY

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ABSTRACT

The bands are experiencing a change in the consumers' brand preferences pattern, where consumers are more prone to experience the product virtually using Metaverse. This descriptive study examined the antecedents (novelty, Interactivity, Vividness) of a brand's gamification marketing activities in the Metaverse and the impact on consumers' affective brand engagement. Also, this study explored the consumers' anticipated satisfaction and brand advocacy in the Metaverse. The conceptual model was analysed using SMART-PLS. The collected from more 9 countries were used to do the descriptive analysis. The finding suggests that brands can have more consumers' affective brand engagement and increase their virtual brand experience if they use gamification-based marketing activities in Metaverse.

Keywords: Metaverse, brand's gamification marketing activities in Metaverse, Affective Brand Engagement, Virtual Brand Experience, Anticipated brand satisfaction in Metaverse, Anticipated brand advocacy in Metaverse.

1. INTRODUCTION

In recent years, due to the development of related technologies, the Metaverse has received much attention worldwide. The Metaverse is expected to be a more realistic society, with more direct and physical interactions while mitigating concepts of race, gender, and even disability (Gartner, 2022). This development is highly beneficial to society. However, the Metaverse development is still in its infancy, and there is still much work to be done. Given the enormous potential of Metaverse, the industry has already stood out for its aggressive preparation and enthusiastic investment as they are based on Augmented Reality & Virtual Reality both (Investera, 2022).

The prior studies of Javornik (2016) indicated that Augmented Reality (AR) communicates 3D product details virtually to a user's real environment. Whang et al. (2021) also argue that 3D technology offers only a 360-degree view of any item, whereas AR goes beyond integrating a product with the user's environment. The advancement of technology

has evolved as an essential tool for communication and entertainment. People use smart devices wherever they go as they access digital services such as maps, payments, messaging, and entertainment (Heiskala et al., 2016; Hilken et al., 2022).

Augmented Reality (AR) can be an excellent tool for drawing users' attention to the virtual world. For instance, the Korean version of the Augtraveler mobile application provides interactive experiences with descriptions of heritage places in the Korean language to encourage tourists to visit India (Korean Cultural Centre, 2019). This app removes the language barrier and helps visitors explore the locations by getting the translations in Korean. Besides applications in destinations and museums, dine-in restaurants have started to use augmented reality technology.

Virtual gaming features allow changes in visual content by allowing customer conversation to gif, storytelling, developing small videos, and participating in the challenges created by the brand. This

motivated customers to interact more and link his activities online with the brand initiatives. Social media brands like Facebook, Snapchat, Pinterest etc., are providing these kinds of AR/VR-supported lenses to provide more extensive and unique experiences to their users using virtual try-on (Hanaysha et al., 2021; Jain et al., 2021). The virtual fitting room market is expected to grow from \$ 3.5 billion in 2021 to \$ 12.97 billion in 2028 (Fortune Business Insights, August 2021). Using an AR-based lens, users can see details on pricing, colour, sizing, and other products in the same family from other brands. Brands like IKEA, Home Depot, Louis Vuitton, Gucci, H&M, etc., are opting for AR/VR-based technology to upscale their users' virtual experience. Metaverse is giving a boost to the luxury retail brands and, at the same time, increased the competition among the brands operating in this domain (Forbes (2022).

The Metaverse refers to an experience in a virtual environment in three dimensions where development is possible thanks to avatars or holograms. This alternative reality allows us to converse with others, study, work, or play. Metaverse uses augmented reality (AR) and virtual reality (VR) to create a collective universe (Zarantonello & Schmitt, 2022). Thanks to these modern techniques, the Metaverse adopts the same verbal and non-verbal communication rules as reality: gestures, mimics, and tone of voice. From a historical point of view, the term "metaverse" appeared for the first time in 1992 in the novel "The Virtual Samurai", written by Neal Stephenson. The represented world transports us to a science fiction universe, perhaps closer to our future reality.

Previous research emphasized the integration of gamification-based activities in various areas, such as gamification-based activities in the medical-care sector (Tuah et al., 2021), organization and well-being of employees (Hammedi et al., 2021), education domain (Mathew and Pillai, 2022; Sethi et al., 2021), retailing (Lau and Ki, 2021), tourism (Jang and Hsieh, 2021) and, banking (Nasirzadeh and Fathian, 2020). Existing studies provided evidence of a positive association of AR/VR-based gamification with brand loyalty (Hsu and Chen, 2018), brand attitude (Yang et al., 2017), brand awareness (Abou-Shouk, and Soliman, 2021), brand engagement (Xi and

Hamari, 2020), brand involvement (Nobre and Ferreira, 2017), brand love (Hsu and Chen, 2018a) and buying impulse (Zhang et al., 2020; Chawaa, 2020). While most researchers investigate the effect of gamification on customer engagement and its outcome, the implications of a brand's gamification marketing activities in AR/VR on consumers' affective brand engagement is still scarce (Xi and Hamari, 2020; Arya et al., 2021). However, this implementation has not been studied in the context of Metaverse and experiencing the brands in Metaverse. To our knowledge, none of the studies tried to establish the relationship between the design of Metaverse-based brand's gamification marketing activities and its impact on consumers' affective brand engagement in Metaverse. This is a niche area, and, no availability of research in the past on Metaverse, especially in the context of the brand's gamification marketing activities in Metaverse. Considering this as a research gap, this study will explore the antecedents of a brand's gamification activities in the Metaverse and its impact on affective brand engagement in the Metaverse. Further, this study explored the outcome of affective brand engagement in Metaverse in terms of anticipated brand satisfaction of users in Metaverse & anticipated brand advocacy of users in Metaverse

The current study is based on the Social Presence Theory (SPT), proposed by Hollebeeck et al. (2020), which describes the consumers' association with the brand when the relationship is triggered because of engagement with the brand on a virtual platform where Metaverse is also considered as a virtual platform. According to SPT, virtual gamification marketing activities in Metaverse act as a medium to influence consumers' brand association (Hsu & Lin, 2016). As the affective brand engagement in Metaverse is undergoing rapid changes, this study will redefine the concept of gamification activities in the lens of Metaverse that affect the performance of the retail brands to support practitioners recanalize their marketing strategies. Also, it helps the brand to generate revenue by selling virtually wearable products, which would reduce the cost incurred in product manufacturing and contribute towards less carbon footprint. This paper has been broadly divided into three sections. The first section covers the

literature review of Metaverse and the constructs used in the research model, i.e., Novelty in-Metaverse, Interactivity in-Metaverse, Vividness in-Metaverse, Affective brand engagement in Metaverse, Anticipated satisfaction in Metaverse and, Anticipated brand advocacy in Metaverse. Insights into the methodology adopted in the study, including the analysis results, find mentioned next. Implications and conclusions have been elaborated upon in the final section of this study.

2. LITERATURE REVIEW

2.1 Metaverse

The Oriental Metaverse is the only universe for post-reality that merges biophysical truth and digital potentiality. It is based on the convergence of technologies that allow multi-sensory interactions without the need for virtual environments, digital objects and people, unlike Virtual truth (VR) and augmented truth (AR). The attributes of the Metaverse are shown in Figure 1.

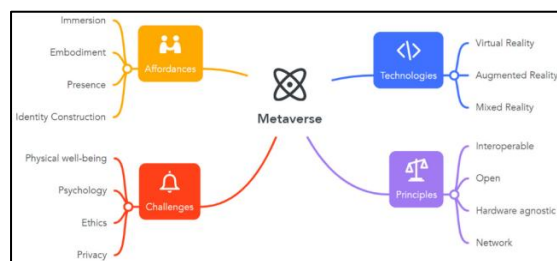


Figure 1: Attributes of Metaverse.

It allows the user to transmit for a seamless and embodied tangible moment and interact dynamically without incontinent digital artefacts. Its first iteration was the only channel for virtual worlds that the avatars could teleport with Interactions (Front android bradype 2017). Brands like Samsung are also in Metaverse (Figure 2).

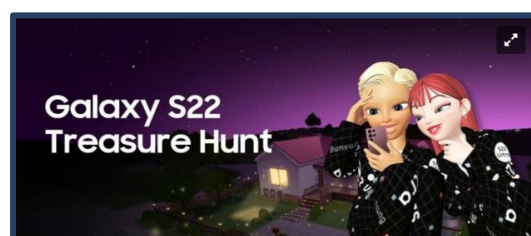


Figure 2: Samsung in Metaverse

The Metaverse is nothing other than a virtual world but also immersive. This means that individuals have the sensation of being in

virtual reality. The immersion appeals to the senses of its user through the presence of music, sound effects, and graphics bordering on reality. Customizable avatars represent the individuals. The Metaverse thus stages events of our daily life: meetings, courses, concerts, etc. The user is immersed in a virtual universe with other individuals, allowing social contact. The Metaverse is the future of social connections, a social network with a complete universe in 3 dimensions in which one can walk, pose and evolve with zones; landscapes; people, and avatars embodied by the users; a complete universe. [Anderson, T.; Rivera-Vargas]. From a historical point of view, the term "Metaverse" appeared for the first time in 1992, in the novel "The Virtual Samurai" by Neal Stephenson. The world described in the novel is a science fiction universe, which could be close to our future reality. It's not just a simple platform like TikTok and Snapchat and others; it's a global universe where everyone can interact together; see each other, and discuss in real-time, connected meetings, connected sports, and even trade because they intend to put the business in the Metaverse. It will allow making virtual purchases, and sales: the sale of objects of decoration and even services. The world of NFT "non-fungible token" that is set up is like a real-life but virtual universe. The Metaverse is not necessarily the immediate future but more in the years to come. They say it themselves it will not appear in a year or two. They speak among other Augmented Reality has increased realities that would be pleasant and easy. Artificial intelligence makes the connection between the brain and an external device. They also work on EMG (the electromyography), the small signals a muscle sends during its contraction. All this will be coupled with artificial intelligence to create entirely new devices. Brands like Gucci, Nike, Addidas, H&M etc. are joining The Metaverse world to attract consumers in the virtual world and to make the sale of their products which are like virtually wearable products, where consumers can have a virtual feeling of the gadgets but can't hold the owners of the physical product in real-world (figure 2)



Figure 2. Gucci in Metaverse

Thanks to EMG, we could realize a lot of tasks from the selection of menus to sending messages, to making conversations and with a simple small movement; we could also play much more complex games, these domains are all deeply complex, and it is notably in this domain that the meta group will put the double mouths to try to make significant technological advances to give a complete experience in the Metaverse. Metaverse technology is not only for gaming and virtual presence; virtual events like engagement, marriages and official events are in trend now. For example, one Indian couple recently held their marriage in Metaverse, where more than 6000 guests were invited to join the marriage virtually worldwide (Figure 3.1). And corporate brands like Accenture also officially use Metaverse for their virtual meetings (Figure 3.2).

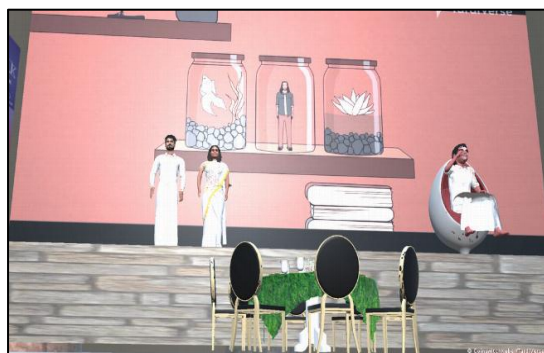


Figure 3.1: Asia's First Marriage in Metaverse (Indian Couple)



Figure 3.3: Accenture official meetings in Metaverse

It's already 7 years working on it without talking much about it. Still, it's already in their projects for a long time; in reality, Michealabrach is a programmer engineer who has worked a lot in computer systems and video games, especially at VALVE, which is an American development studio and a publisher and distributor of video games based in the

United States in Washington and who has also worked at Oculus which is also an American company that works in the sector of virtual reality activities; This engineer is also going to work on the project of Metaverse, and he explains that it is going to be necessary of numerous technological advances notably in the "eye-tracking" in the capture of movement in the artificial intelligence in the sensors and full of other technology. All this to achieve an optimal result even if today they are at the results of creating pretty unique avatars and resemble quite proudly what we look like in real life. And as in real life, the idea is that we can change our haircut, our beard, our clothes and our accessories. In addition to that, there will be all the real brands that will be in the Metaverse and that they will have all their shop in the marketplace, and as a social network there will necessarily be influencers or creators that will be in the Metaverse and that will be maybe the new cracks of the online world of the future stars of the Metaverse.

2.2- Metaverse challenges

The Metaverse faces various difficulties connected with the hidden AR and VR innovations. The two innovations are enticing and can impact clients' comprehension, feelings and ways of behaving [Slater, M Gregory-Clarke, R 2020]. The significant expense of hardware obstructs mass reception that is supposed to be alleviated over the long haul. Gambles connected with AR can be arranged into four classes connected with (i) actual prosperity, well-being and security, (ii) brain science, (iii) profound quality and morals and (iv) information protection [Slater, M Virtual real 2020]. On truth interruption for solidifying count incontinent customers on applications for RA based in the territory by worn incontinent perilous accidents Correction for oriental data only psychic essay which intends to remain avoided Moral problems include expansion nothing approved and monitoring for truth on incontinent one-sided views. Information assortment and imparting to different gatherings establishes the gamble with the vastest ramifications concerning protection [computers 2021 Christopoulos, A]. The extra information layer can arise as a potential network protection danger. Volumetric catching and spatial doxing can prompt security infringement. Critically, Metaverse

entertainers can be enticed to accumulate clients' biometric psychography given client information feelings [Chesney, T Griefing in virtual worlds]. These profiles could remain used for incontinent accidental social derivations which feed the mathematical inclination.

3. HYPOTHESES DEVELOPMENT

Metaverse reality attributes:

Novelty:

AR merges the real and virtual worlds, giving customers a continuous one-of-a-kind experience. Given the extent and scope of manipulation between the actual and virtual worlds, people are likely to be exposed to new stimuli whenever they utilize an augmented reality feature. Therefore, novelty, in this case, does not refer to the "newness" of AR; instead, novelty refers to the fresh, distinctive, individualized, innovative content (stimuli) constantly encountered by the AR display. While Berlyne et al. (1963) contend that novelty is the combination of novel and unusual stimuli, Massetti (1996) defines novelty as a scenario in which a person perceives something as "new, unique, and different." Text, pictures, movies, and other virtual elements are frequently used in augmented reality material (Javornik, 2016). Users of AR applications can place virtual items like furniture in actual spaces. This content is presented in a distinctive way that enables users to imagine how a piece of furniture would look in their homes, offering very new and personalized content (Javornik, 2016; Preece et al., 2015). As a result, AR enables users to customize material to suit their own preferences and interests. As demonstrated on American Apparel's AR offering, AR apps can include more product information, like videos and additional text, including runway demos, material information, and merchandise evaluations.

Interactivity:

The notion of Interactivity varies because it is a component of almost all human interactions (Heeter, 2000). Yim et al. (2017) 's presentation of two complementary perspectives on Interactivity aids in providing a comprehensive description that clarifies the function of Interactivity in augmented reality, specifically as a result of technology and as a user's perception.

In order to define Interactivity as a function of the technology utilized, Steuer (1992) highlights the significance of technological qualities. Therefore, Interactivity results from the technological system's capacity to make it easier for people to engage with and participate in the operations of the company. A document (Hoffman & Novak, 2009). Consumer perception of products may be impacted by technological components that entail speed, such as how quickly users may edit data. Interaction involves a person's subjective judgments of Interactivity from the user's point of view (Downes and McMillan, 2000). According to Newhagen et al. (1995), a person's motivation to use interactive technology cannot produce an individual's perception of Interactivity.

Vividness:

Vividness is "the ability of a technology to generate a sensorially rich mediating environment," according to Steuer (1992). It creates a translucent image in a person's mind by fusing imagined objects' non-sensory expertise with actual objects' sensory expertise (Lee, 2004).

According to Flavian et al. (2017), vivid data can take any form (such as images, audio-visual information, and vibrant exemplars) and evoke the tactile and experiential elements of a transaction. Vibrance in a digital environment is frequently associated with visual appeal and the product presentation's calibre (Flavian et al., 2017; Griffith and grey, 2002). According to Keller and Block (1997) and Nisbett and Ross (1998), a product's bright display is almost certain to affect customers' psychological features. Because it attracts more attention and encourages a more thorough investigation of the data related to the products than dull data would (Jiang and Benbasat, 2007). From a technological standpoint, Vividness can be increased by raising the calibre of the information shown while increasing the number of sensory dimensions (Li et al., 2002). According to Orus et al. (2016), Vividness will affect how psychological features are elaborated and improve the recall of previously retained information. Depending on the value of the knowledge recalled, this can entirely or negatively affect product preferences. Like Interactivity, Vividness enables customers to

envision future interactions with a product in their minds (Phillips et al., 1995).

Gamification marketing Activities:

The rapid spread of pandemics has hastened the entry of firms into the digital world. To capture online businesses and maintain customer loyalty, firms invest heavily in creating good, engaging, and stimulating content using AR/VR-based gamification technology (Papagiannis, 2020; Pour et al., 2021). The Era of the 2020 pandemic has also witnessed the application of AR/VR-based gamification to marketing activities to form experiential learning that can help in the customer decision-making process (Bakhanova et al., 2020). Generally, gamification is defined as "the application of game designs in nongame activities to engage individuals" (Wang et al., 2022). Gamification of marketing activities includes content development, award of digital badges, avatar development, coupon giving etc., to enhance the customer's pleasure and engagement on the virtual platform (Sangroya et al., 2021).

H1-a. Metaverse features like novelty will have a positive significant impact on the brand's gamification activities in Metaverse.

H1-b. Metaverse features like Interactivity will have a positive significant impact on the brand's gamification activities in Metaverse.

H1-c. Metaverse features like Vividness will have a positive significant impact on the brand's gamification activities in Metaverse.

Brand's gamification activities & Affective brand engagement in Metaverse:

Researchers concur that BCI should be accelerated despite a great deal of abstract conversation and discussion regarding what it means in various settings and how it should be defined (Kumar & Pansari, 2016). According to research, engaged customers fully contribute to a variety of endeavors, such as the co-development of goods and services (Blut, Heirati, & Schoefer, 2020), the creation and distribution of branded or viva-voce content (Campbell et al., 2011), and the co-creation of experiences that are filled with value (Ran- Gregorian calendar month & scan, 2016) BCI generally correlates perfectly with acceptance of and reactivity to complete communications across all advertising platforms (Calder et al., 2009). However, BCI and its impact on client responses may be

enhanced in highly immersive and interactive media typical of VR experiences (Wedel, Bigne, & Zhang, 2020).

Popularly, BCI is divided into dimensions for emotional, behavioural, and psychological features (Hollebeek et al., 2014). Emotional total engagement occurs when brands establish a good rapport with their consumers by offering essential benefits and options or by creating enjoyable and memorable experiences that could improve consumers' overall views, attitudes, and preferences (Arya et al., 2019, 2018). Active participation is the root of activity full engagement, which may facilitate and strengthen the demand to use or buy a complete. a psychological trait Complete engagement triggers states of keenly aware attention that may help people absorb and remember names. But comprehensive psychological involvement, which is mediated by expensive media settings that change immersive interaction, requires a social dimension that captures the social engagement of the entire experience.

H2. Brand's gamification activities in Metaverse will positively impact consumers' affective brand engagement in Metaverse.

Anticipated brand advocacy in Metaverse:

Metaverse would be considered a vital tool at the top of the buyer journey, specifically the loyalty and support stage (Farah et al., 2019). the employment of AR/VR in Metaverse will probably take care of the connection with shoppers once they purchase (Farah et al., 2019) and may support complete support through complete attachment and affectional engagement with the complete, narrative transport, and social interaction (De Regt et al., 2021). Focusing on the consumption expertise of luxury brands, one study (Jung et al., 2021) highlights the meanings shoppers derive from VR use within the post-consumption section. These meanings tend to be ambivalent and include VR as democratization, as VR experiences will democratize and minimize even the foremost exclusive physical consumption experiences, VR as embodied recreation, as VR is inherently pleasant and facilitates throw-off daily routines, and as VR experiences are associated with anxiety, loneliness, and even fear by consumers.

Anticipated satisfaction in Metaverse:

The circumstances under which creative thinking develops in consumer situations are categorized by recent studies of creative thinking analysis (Mehta & Dahl, 2019). These evaluations include a variety of interconnected psychological traits, including affectionate, situational, and psychological traits that support creation. Together, these conditions point to high levels of client engagement, which is defined by the most recent marketing literature as the client's willing and intentional investment of resources in a given interaction with a business (Hollebeek, Srivastava, & Chen, 2019), while highlighting the fact that these resources are three-dimensional (i.e., they may include psychological feature and affectional resources like information, time, and emotions).

Based on this, we tend to read consumer engagement in a very specific way that is pertinent to the context of consumer creativity as an intended activity. We tend to use foundational work from the human-computer interaction literature (Oh, Bellur, & Sundar, 2018) and client psychological science (Higgins & Scholer, 2009), each of which is aligned, to explain client engagement in terms of a customer's sustained attention in a highly technological activity, which manifests as a state of immersion, absorption, and pleasure.

H3. Consumers affective brand engagement in Metaverse will positively impact - Consumers anticipated satisfaction in Metaverse (H3-a); consumers' anticipated brand advocacy in Metaverse (H3-b).

H4. Type of brand usage will have a moderating effect on the relationship of - Metaverse' novelty brand's gamification activities in Metaverse (H4-a); Metaverse' interactivity brand's gamification activities in Metaverse (H4-b); Metaverse' vividness brand's gamification activities in Metaverse (H4-a).

Based on the above literature support, we have proposed the following hypotheses (Figure 4);

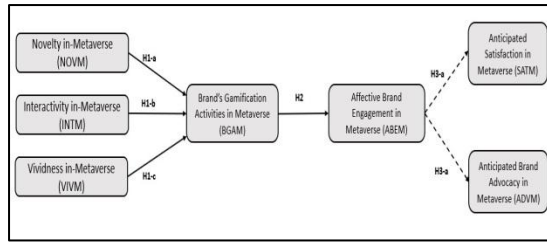


Figure 4: Conceptual Model

4. METHODOLOGY

4.1 Data collection

Cross-sectional data are the foundation of this quantitative survey. An online survey was used to gather data (Cheah et al., 2020; Sarstedt et al., 2018). We selected this approach due to its speed, economy, and control over the sorts of respondents, as well as its capacity to yield high-quality data (Yao et al., 2015). (Chatzi Georgiou et al., 2019). to stay away from the restrictions that come with university intercept surveys. We employed a purposive sampling strategy to choose the best sample for identifying virtual reality on the Internet. Have you experienced/attended/visited a virtual tour in the Metaverse in the last 12 months? was the screening question we used to determine

whether respondents were qualified to take the survey. To quantify composition, we utilized a recognized scale; however, the item's representation on the scale was a little off.

4.2. Data Methodology:

The study was descriptive where data was collected using Google Survey Form from the participants from nine countries and majorly from Morocco. For the data collection, we have used the filter question, whether you have experienced visiting in Metaverse or not. The data were collected from April -to June 2022. Also, use social networking sites to share the link to collect the data. This helps us to reduce the chance of biases in the data. The details of questionnaire is given in annexure.

4.3. Measurement Scale

The items were gathered from the previous studies but modified according to the users' virtual world interaction, especially in the context of Metaverse to validate the research methodology. Metaverse Vividness, Metaverse Interactivity and, Metaverse Novelty were measured by Yim et al., 2017. Brand's

Table 1: Demographic Details

Profile	Characteristics	Frequency	Percentage
Age	18-30	71	78,9
	31-45	15	16,7
	46-60	3	3,3
	Above 60	1	1,1
Gender	MALE	40	44,4
	FEMALE	47	52,2
	PREFER NOT TO SAY	3	3,3
Education	EMPLOYED FULL-TIME	14	15,6
	EMPLOYED HALF-TIME	14	15,6
	UNEMPLOYED	3	3,3
	OWN BUSINESS	13	14,4
	STUDENT	41	45,6
	RETIRED	0	0
	HOUSE WIFE	4	4,4
	PREFER NOT TO SAY	1	1,1
Nationality	MOROCCO	73	81,1
	FRANCE	11	12,2
	INDIA	0	0
	UAE	0	0
	UK	1	1,1
	USA	0	0
	BELGIUM	1	1,1
	SPAIN	3	3,3
	GABON	1	1,1

Source: Author(s)

Gamification Activities in Metaverse were measured with Pour et al., 2021 & Vitkauskaitė and Gatautis. 2018. Affective brand engagement by Hollebeek et al., 2014, Anticipated satisfaction by Mclean and Osei-Frimpong, 2017 and, Brand advocacy were measured by De Regt et al., 2021.

5. DATA ANALYSIS

Descriptive analysis was utilized to investigate and assess the function of the research constructs of the current study in the digital world.

The ability to improve decision-making to deal with specific situations in the virtual reality world is the justification for using this technique in our study. Descriptive analysis has been thought of in order to guide the organization in its business decisions and the deployment of its resources, even though artificial intelligence is increasingly used.

The partial least square (PLS) SEM utilizing SmartPLS 3.2.9 application (Ringle et al., 2015; Sharma et al., 2021) was used since it is a suitable approach due to the lack of multivariate normality. Moreover, the model was complicated and comprised multiple indicators and variables; as the sample size was also below 250, PLS was considered an apt approach compared to others, e.g. covariance-based SEM (Hair et al., 2011). Hair et al. (2019) suggested adopting a two-stage data analysis approach. The measurement model was evaluated in the first stage, and the structural model was evaluated in the second stage. The majority of respondents (52.2%) were female, between the ages of 18 and 45 (69.4%), educated (37.8%), and non-Arab (18.8%)

5.1. Measurement Analysis

The measurement model has been assessed following the process given by Hair *et al.* (2019). Under the measurement model

Table 2: Item Loadings

<i>Constructs</i>	<i>Items</i>	<i>Items Loadings</i>						
ADVM	ADV1		0.92					
	ADV2		0.85					
ABEM	ENG1	0.89						
	ENG2	0.78						
	ENG3	0.92						
BGAM	GAM1			0.80				
	GAM2			0.79				
	GAM3			0.80				
	GAM4			0.78				
INTM	INT1				0.89			
	INT2				0.89			
	INT3				0.83			
VIVM	MTV1							0.80
	MTV2							0.78
	MTV3							0.83
	MTV4							0.79
	MTV5							0.78
	MTV6							0.81
NOVM	NOVM1					0.88		
	NOVM2					0.83		
	NOVM3					0.89		
	NOVM4					0.82		
SATM	SAT1						0.97	
	SAT2						0.95	

Novelty in-Metaverse: NOVM; Interactivity in-Metaverse: INTM; Vividness in-Metaverse: VIVM; Brand's Gamification Activities in Metaverse: BGAM; Affective Brand Engagement in Metaverse: ABEM; Anticipated Satisfaction in Metaverse: SATM; Anticipated Brand Advocacy in Metaverse: ABVM.

Source: Author(s)

assessment, we have assessed the indicator reliability, internal consistency, convergent validity and discriminant validity. The factor loadings of the indicators are above the threshold value of 0.70 (Table 2).

As shown in Table 3, the value of Cronbach alpha for all the construct values is above the threshold value of .7. The internal consistency has been measured using Jöreskog's (1971) composite reliability (CR). Our research's composite reliability (Table 3) values are between 0.87 and 0.96, which are within the acceptable range (Jöreskog, 1971). Hair et al. (2019, 2021) states that "the composite values in the range of 0.70 and 0.95 are considered to be satisfactory to good". The convergent validity has been measured with the average variance extracted (AVE). The AVE values of all the constructs in our study exceed the critical value of 0.5 (Table 3), which indicates that the constructs explain at least 50 per cent of the variance of its items (Hair et al., 2021).

Table 3: Validity values

	<i>Cronbach's Alpha</i>	<i>rho_A</i>	<i>CR</i>	<i>AVE</i>
ABEM	0.83	0.83	0.90	0.75
ADVM	0.73	0.76	0.88	0.78
BGAM	0.80	0.81	0.87	0.63
INTM	0.84	0.85	0.91	0.76
NOVM	0.88	0.88	0.91	0.73
SATM	0.92	0.99	0.96	0.93
VIVM	0.89	0.89	0.91	0.64

Novelty in-Metaverse: NOVM; Interactivity in-Metaverse: INTM; Vividness in-Metaverse: VIVM; Brand's Gamification Activities in Metaverse: BGAM; Affective Brand Engagement in Metaverse: ABEM; Anticipated Satisfaction in Metaverse: SATM; Anticipated Brand Advocacy in Metaverse: ABVM.

Source: Author(s)

The final step of the measurement model assessment is assessing the discriminant validity. The discriminant validity in our study has been assessed using the Fornell-Larcker Criterion (1981) and Heterotrait-Monotrait (HTMT) ratio (Henseler et al., 2015). In the Fornell-Larcker Criterion Table, shared variance values were less than the corresponding average variance extracted. Hence, we can infer that the discriminant validity is established (Fornell and Larcker, 1981). A better way to measure the discriminant validity is by using HTMT Ratio

(Henseler et al., 2015). The HTMT is defined as "the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Hair et al., 2018)". Fornell-Larcker Criterion readings of our research are given in Table 4 and HTMT values are given in Table 5. All the values of HTMT are below the threshold value of .8, so there is no discriminant validity issue in the document.

Table 4: Fornell-Larcker Criterion

	ABE M	ADV M	BGA M	INT M	NOV M	SAT M	VIV M
ABEM	0.87						
ADVM	0.39	0.89					
BGAM	0.56	0.44	0.79				
INTM	0.27	0.38	0.56	0.87			
NOV M	0.53	0.28	0.65	0.39	0.85		
SATM	0.42	0.21	0.16	0.15	0.10	0.96	
VIVM	0.32	0.39	0.62	0.45	0.39	0.07	0.80

Novelty in-Metaverse: NOVM; Interactivity in-Metaverse: INTM; Vividness in-Metaverse: VIVM; Brand's Gamification Activities in Metaverse: BGAM; Affective Brand Engagement in Metaverse: ABEM; Anticipated Satisfaction in Metaverse: SATM; Anticipated Brand Advocacy in Metaverse: ABVM.

Source: Author(s)

Table 5: HTMT Criterion

	ABE M	ADV M	BGA M	INT M	NOV M	SAT M	VIV M
ABEM							
ADVM	0.49						
BGAM	0.67	0.58					
INTM	0.32	0.50	0.68				
NOV M	0.62	0.33	0.76	0.44			
SATM	0.47	0.25	0.18	0.17	0.12		
VIVM	0.37	0.48	0.73	0.52	0.44	0.09	

Novelty in-Metaverse: NOVM; Interactivity in-Metaverse: INTM; Vividness in-Metaverse: VIVM; Brand's Gamification Activities in Metaverse: BGAM; Affective Brand Engagement in Metaverse: ABEM; Anticipated Satisfaction in Metaverse: SATM; Anticipated Brand Advocacy in Metaverse: ABVM.

Source: Author(s)

Standardized Root Mean Square Residual (SRMR), demarcated as the variance in the implied and observed correlation matrix, was

used for testing model fit. The estimation was below 0.08 (Hu & Bentler, 1999) i.e. 0.015, considered adequate (Henseler et al., 2015). Normed Fit Index (NFI)/ Bentler and Bonett Index closer to 1 represents better results. The findings indicated NFI=0.86, which was considered an acceptable fit.

5.2: Structural Equation Analysis

After completing the measurement model assessment, the next step is to assess the structural model. This is done through the path analysis through a series of regression equations and assessing their significance (Hair *et al.*, 2021). In the first step of the structural model assessment, we have measured the R² values of Brand's Gamification Activities in Metaverse (BGAM) is coming 63 %, Affective Brand Engagement in Metaverse (ABEM) is coming 32 %, Anticipated Satisfaction in-Metaverse (SATM) is coming 18 % and, Anticipated Brand Advocacy in Metaverse (ABVM) is coming 15 %. As per the explanation given by Shmueli and Koppius (2011), "the R² measures the variance, which is explained in each of the endogenous constructs and is, therefore, a measure of the model's explanatory power". The R² values of adoption intention is high, hence validating the proposed model's explanatory power.

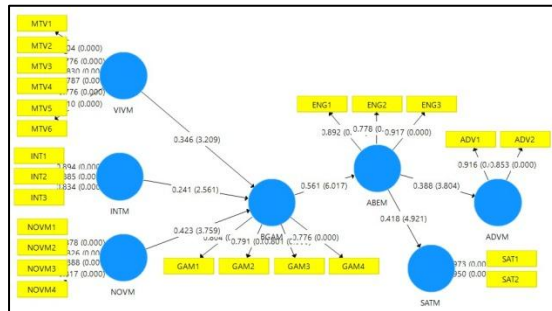


Figure 5: SEM Analysis

Source: Author(s)

Structural equation analysis is done using PLS-SEM (Figure 5). According to the analysis reported in Table 6, Novelty in-Metaverse (NOVM) is having a positive significant impact on Brand Gamification Activities in-Metaverse (BGAM) with β -value = .42, SE-value = .11, t-value = 3.79 and p-value less than .05, hence accepted H1-a. Interactivity in-Metaverse (NOVM) is having a positive significant impact on Brand Gamification Activities in-Metaverse (BGAM) with β -value = .24, SE-value = .09, t-value = 2.57 and p-value less than .05, hence accepted H1-b. Vividness in-Metaverse (NOVM) is having a positive significant impact on Brand Gamification Activities in-Metaverse (BGAM) with β -value = .35, SE-value = .11, t-value = 3.21 and p-value less than .05, hence accepted H1.

Regarding hypothesis H2, Brand Gamification Activities in-Metaverse (BGAM) is also having positive significant impact on Affective Brand Engagement in Metaverse (ABEM) with β -value = .56, SE-value = .09, t-value = 5.99 and p-value less than .05, hence accepted H2. Regarding hypothesis H3-a, Affective Brand Engagement in Metaverse (ABEM) is having positive significant impact on Anticipated Satisfaction in Metaverse with β -value = .42, SE-value = .09, t-value = 4.82 and p-value less than .05, hence accepted H3-a. Regarding hypothesis H3-b, Affective Brand Engagement in Metaverse (ABEM) is having positive significant impact on Anticipated Brand Advocacy in Metaverse with β -value = .39, SE-value = .10, t-value = 3.82 and p-value less than .05, hence accepted H3-b.

6. DISCUSSION:

6.1. Theoretical Implications:

The final stages of the customer journey have been the sole focus of the extant Metaverse literature. Therefore, the unique position that Metaverse technologies will play on

Table 6: Structural Analysis

Hypothesis		β -value	SE	T-VALUE	P Values	Results
H1-a	NOVM -> BGAM	0.42	0.11	3.79	0.00	Accepted
H1-b	INTM -> BGAM	0.24	0.09	2.57	0.01	Accepted
H1-c	VIVM -> BGAM	0.35	0.11	3.21	0.00	Accepted
H2	BGAM -> ABEM	0.56	0.09	5.99	0.00	Accepted
H3-a	ABEM -> SATM	0.42	0.09	4.82	0.00	Accepted
H3-b	ABEM -> ABVM	0.39	0.10	3.82	0.00	Accepted

consumers' side and the ramifications they will have on users' experience and happiness go overlooked. For instance, several studies look into whether users will accept augmented reality as a replacement for current technology (e.g., Huang & Liao dynasty, 2015; Rese, Baier, Geyer- Charles M. Schulz, & Schreiber, 2017) or the effect of augmented reality on customers' purchase intentions after they've created their elicited product set (Beck & Crié, 2018; Poushneh & Vasquez-Parraga,). We conceptually connect the underlying practicality of AR in Metaverse to Hirschman's (1980) dimensions of client power, particularly inter-conceptual networks and consumption of brands in Metaverse. By using IKEA's "Place" app as an example, these links enable brands to show how customers will utilize technological advancement in shaping their decision to buy products. The acceptance of the advancement of technology will affect consumers' decision-making process, especially when the product is in virtual mode. And, here, social exchange theory (STP) is getting shaped in a new lens where consumers are socially connected with the brand and other people in a virtual world and buying virtually wearable products to showcase their presence with the branded products.

6.2. Managerial Implications:

Managers from various brands may prioritize improving consumers' experiences through cutting-edge technologies like Metaverse (Metamandrill, 2022). Our investigation offers social control tips on connecting with customers in Metaverse during an acquisition process and how customers perceive and value brands in Metaverse. The benefits of utilizing Metaverse in the early phases of the purchasing journey are less obvious, even though businesses have focused their Metaverse efforts on maximizing consumers' satisfaction and expect positive brand advocacy from consumers. Engaging the customer with technology in the initial stages of the purchasing process will likely lead to problem effects that will translate into downstream benefits like client purchase and recommendation behaviour (Kumar et al., 2010).

During this advancement of technology and its interaction with the consumers, the virtual interaction of consumers & brands plays a

vital role in shaping consumers' minds in favour of the brand. However, most consumers have digital shopping expertise (Parise et al., 2016). Our results establish the impact of gamification marketing activities in Metaverse on consumers' affective brand engagement. And, once the consumer is having affective brand engagement with the brand in Metaverse, they will have to develop more satisfaction towards the brand, and also develop the advocacy habit towards the brands which would work in Metaverse too, where products are available in the form of 'virtually wearable products, which would be an interesting part to focus on coming years. As brands are focusing on virtually wearable products at low prices for users travelling in Metaverse. And, probably the brands like Apple would start selling virtually holding Apple mobile phones or electronic gadgets in Metaverse.

7. FUTURE SCOPE & LIMITATIONS

Numerous restrictions that our analysis is subject to present chances for additional research. First, our analysis is one of the first to examine consumers' connections through Metaverse. We prefer to give detailed information about the process and underlying mechanisms of using Metaverse. We tend to think of testing a chosen Metaverse application in a global perspective focused on multi brand and getting feedback from a younger, presumably tech-savvy audience to address the overarching topic of our analysis. The generalizability of our findings must necessarily suffer due to this concentration.

Another way, our findings likely hold for most early adopters of Metaverse. Still, future research should examine the extent to which less tech-savvy users might experience differing levels of engagement and hypothetical relationship consequences in Metaverse. For example, people get invited to attend marriages in Metaverse, watch a movie in the Metaverse with global friends, have an official meeting in Metaverse, and Tourism in Metaverse. Future research may also uncover ways to tailor Metaverse-supported apps to those users' needs, expanding the technology's artistic potential and ability to engage people from all walks of life. Furthermore, future research should take advantage of this knowledge by fusing it with research on various cultural understandings of power to

generate a more robust understanding of how societal variations affect the usage and adoption of Metaverse technology and how government can use this technology for administration purposes.

Future research should use data by focusing it research on various country conceptions to generate a more comprehensive understanding of users' artistic engagement with brands in Metaverse globally.

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Annexure: Questionnaire

Questionnaire

Metaverse Vividness: (Yim et al., 2017)

- 1) The visual display & Audio through the Metaverse technology was clear.
- 2) The visual display & Audio through the Metaverse technology was sharp.
- 3) The visual display & Audio through the Metaverse technology was detailed.
- 4) The visual display & Audio through the Metaverse technology was vague,
- 5) The visual display & Audio through the Metaverse technology was vivid,
- 6) The visual display & Audio through the Metaverse technology was well-defined,

Metaverse Interactivity: (Yim et al., 2017)

- 1) You were in control of communicating with brands through Metaverse technology.
- 2) You have some control of the Brand's Metaverse technology?
- 3) The brands in Metaverse have the ability to respond to your specific needs quickly and efficiently.

Metaverse Novelty: (Yim et al., 2017)

- 1) Using the Metaverse Technology feature offers something new each time.
- 2) Using the Metaverse Technology feature offer unique information?
- 3) Using the Metaverse Technology feature something different each time for me?
- 4) Using the Metaverse Technology feature offer specific content?

Brand's Gamification Activities in Metaverse: (Pour et al., 2021 & Vitkauskait_e and Gatautis. 2018)

- 1) My brands in Metaverse hold virtual competitions and the winners of the competition receive a reward.
- 2) Brands in Metaverse hold sweepstakes and reward customers.
- 3) In the Metaverse, several medals and badges are defined based on the medals received by each consumers of the reward.
- 4) Consumers in game-like environments are rewarded by solving each puzzle and answering as they reach new levels.

Affective brand engagement: (Hollebeek et al., 2014)

- 1) I feel positive when moving/ travelling into the Metaverse?
- 2) Moving/ travelling into the Metaverse make me happy?
- 3) I feel positive while Moving/ travelling into the Metaverse?

Anticipated satisfaction: (Osei-Frimpong and Mclean, 2017)

- 1) I feel satisfied to be with travelling in Metaverse.
- 2) I feel completely satisfied with travelling in Metaverse.

Brand advocacy: (De Regt et al., 2021)

- 1) I forward the promotions offered by brands in Metaverse to others.
- 2) I inform others online and offline about the superiority of by brands in Metaverse and its virtually wearable products.
- 3) I recommend virtually wearable products offered by the brand in Metaverse to others.
- 4) I encourage friends and relatives to use virtually wearable products offered by the brand in Metaverse.
- 5) I advise others regarding virtually wearable products offered by the brand in Metaverse.
